

News in brief

30,000 approach literacy project

More than 30,000 adults with reading and writing difficulties have come forward seeking help since the BBC adult literacy project began three months ago.

About 10,000 adults have come through the BBC telephone referral service, which operates after each television programme and refers callers' names to their local authority. Others have applied through the Radio Times application form or direct to their local authority.

The referral service has also received about 10,000 calls from adults volunteering to be tutors.

Mr David Langreaves, producer of *On the Move*, the television programme, said: "We are delighted by the response of around 1,000 students and another 1,000 tutors to each week's programme."

It is hoped that with the return of the television programme three times a week starting on January 4, BBC 1 at 6.05 pm, and more of the estimated two million literate adults in Britain will come forward. Feature next week.

Mr Mulley's PPS

Mrs Ann Taylor, MP for Bolton West, has been appointed parliamentary private secretary to Mr Mulley, Secretary of State for Education and Science. Mrs Taylor, who read politics and modern history at Bradford University and later obtained an MA in economic history at Sheffield University, replaces Mr Bryan Davies.

Bank makes OU awards

The National Westminster Bank is to give £3,000 over the next three years in awards to Open University students. There will be 10 prizes of £30 each for foundation course students who achieve a distinction on their course and who have less than two A levels. There will also be five prizes of £100 each for the best honours degrees awarded to disabled students.

Avon cuts

Avon county's expenditure for 1976/77 will be cut by £15m to £1m, according to estimates of the county resources committee based on the recently announced rate support grant. The committee has passed a motion that teaching posts above grade one and mandatory grants should not be affected by the cut, but warned that it cannot direct individual committees how to allocate their budgets.

Salaries secretary

Mr G. F. Hall, until recently an under-secretary in the Treasury, is the new, part-time, secretary of the University Authorities Panel which handles academic salaries.

DES man's prize

Mr James Edwards, a divisional inspector with the Department of Education and Science, has been awarded the coveted Brynmor Jones award for exceptional services to the progress of educational technology.

The award was first made to Sir Brynmor Jones himself in recognition of his work as chairman of the Committee on Audio Visual Aids in Higher Scientific Education and as chairman of the former National Council for Educational Technology.

Careers in colour

Aberdeen University's mobile television unit is to make a colour film on careers in industrial management for the Employment Services Agency and the Standing Conference of University Appointments Services.

The unit, one of the few educational units equipped to record in colour, will make part of the programme in the film of Sir Henry and Lady Lady, and will be shown in schools, colleges and universities throughout the country.

Split-site proposals may end Trent Polytechnic's unified centre plan

by David Hencke

Plans to develop Trent Polytechnic as a large city centre institution will finally be abandoned if a new scheme is accepted by Nottinghamshire County Council later this year.

A scheme put forward by Robert Matthews, Johnson-Marshall and Partners, planning consultants, proposes that the new polytechnic should be split between the city centre and the former Nottingham College of Education.

Under the scheme the majority of new buildings will be erected on land already owned by the polytechnic, and new developments will be restricted to the infilling of sites.

One major faculty, the School of Science, will be transferred from the city centre to the college site and a new pedestrian precinct will be created around the polytechnic's central site.

The proposals also involve demolition of parts of some of the historic buildings on the site although there will be careful restoration of the façades.

A 58-page document outlining the plans says that the scheme must be not only "acceptable but also sufficiently unequivocal to stand the test of public debate."

"The propositions now put forward in principle will have to be explored by feasibility studies of massing, density, architectural character and landscape, and, following a process of public participation, gain the acceptance and support of the polytechnic, the education authority and the community."

The consultants propose that the urban city centre site and the suburban college site should be developed to exploit the characteristics of their areas.

Extensions are proposed to some of the city centre buildings while the open playing fields will be kept at the college site.

Four major schools—engineering, human sciences, art and design and environmental studies—will be expanded in the city centre, while four schools—education, modern studies, science and social studies—will be developed on the college site as the teacher training intake declines.

Priorities for new developments will go towards more residential accommodation for students. A self-catering block for 120 students is due to be completed in 1977 and there are proposals to provide another 132 places by 1978.

The acquisition next year of Clifton Hall, at present used as a school, will also provide some residential accommodation and house new courses.

Other plans include new teaching and administration blocks, more car parking and better sports and students' union facilities.

Aston plans new development to house management centre

The University of Aston in Birmingham is planning a further major development of its campus, with the construction of a new building to house the management centre. Construction of this one of the new buildings, which will cost around £1.25m, is due to start in April, 1976.

Since it was first set up in 1972, the centre has operated in three separate locations in Birmingham. These have been the main offices and facilities mainly for postgraduate and post-experience activities.

Completion of the new building is scheduled for the early 1980s, when it is estimated the management centre will also have its full intake of 1,000 students in undergraduate and postgraduate levels.

"This will be the largest management centre in Europe. It is a perfectly natural location for so large a centre since we believe the West Midlands represents the largest industrial concentration in Europe," Dr J. A. Pope, the university's vice-chancellor, said when announcing plans for the development.

The new centre will be adjacent to the campus library, which was completed earlier this year, and the planned annual intake of 150 medical students which has been made effectively impossible by the closing of hospital wards to staff shortages.

Following discussions with the Highland health board, the most hopeful possibility seemed to be to send a small number of students to Inverness, possibly 10 at first but later about 35, throughout the teaching year.

This would mean each medical student spending a quarter of his third year in Inverness, and a remainder in Aberdeen. The idea was being pursued and was under consideration by the UGC.

Some universities such as Nottingham, Strathclyde and Lancaster expect a 50 per cent growth in student numbers, while Warwick expects to double in size by 1981-82.

But the University Grants Committee may be forced to reduce these expectations if the publication during the next few weeks of the long-delayed Public Expenditure White Paper confirms fears that there will be no extra money for university buildings.

During 1975, universities supplied the UGC with estimates of their student numbers for 1981-82, which represented an average growth of about 20 per cent. Few universities have plans which would discuss ways of raising British industry.

Other specific areas in which the CEI say they could help are recruitment of more high-quality engineering students, the development of a "symbolic" between the universities, polytechnics and industry, aimed at providing engineering courses.

Professor Coates also asks for Government help for professional engineers who are being pressured to join trade unions.

"It is vital that the quite justified action of certain powerful unions in blocking the legitimate work of chartered engineers in order to force the hand of management to displace them, make them join a particular union be stopped."

However, the Government has given no indication that it disagreed with the principle that these estimates should be divided equally between the universities and the further education sector, which would mean about 30,000 to 35,000 students in the universities by 1981-82.

Now, despite signs of growth in student applications to universities, preliminary Universities Central Admissions Figures for entry in 1976 show they are up by 8 per cent over 1975—the DES is thought to be considering whether universities should have even fewer students in 1981-82 than previously allowed.

It is the DES student target were below 300,000, estimates such as those of Reading and Sheffield of 27 per cent would probably have to be revised downwards.

The average price of an academic book in 1974 was £4.58, nearly two and a half times the price of novels and non-fiction books, according to a survey by the Library Management Unit at Cambridge University.

The most expensive subject areas were chemistry (£9.46) and physics (£9.10), followed by general biology (£7.08) and medicine (£6.43). The unit, financed by the British Library, hopes to publish a survey of 1975 prices in the spring.

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Aberdeen cuts student targets

Aberdeen University is to aim for a student population of 8,600 by 1981-82 and not 10,500 as agreed two years ago. This was stated in the principal's annual report to the general council.

In his last report before retirement Dr E. M. Wright said that in January the University Grants Committee gave a revised figure for undergraduate student numbers at Aberdeen of 5,190 for 1976-77. At the same time they had suggested a figure for full-time equivalent students by 1981-82 within a range 8,600 to 10,500.

It had been decided that the university should not aim for the higher figure, which had been agreed two years ago, but for the lower figure, which would be made up of 4,600 arts-based and 4,000 science-based students.

The final total of former public-sector teacher training places is given as 6,000, a reduction of 1,000 from the 7,000 places in colleges and polytechnics in 1972.

The memorandum warns that the final number is still too high to meet the needs of the smaller school population predicted for the 1980s.

Final distribution of places is given as: universities (five institutions) 2,150 places; polytechnics (25 institutions) 14,670 places; colleges of higher education (53 institutions) 300 to 750 in colleges of education.

Universities are still planning to grow by an average 20 per cent by the end of the next quinquennium, although there are widespread fears that Government economies will mean large cuts in projected targets.

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Polys lose in DES teacher blueprint

by David Hencke

A new generation of colleges of higher education, 53 in all, is to be given the lion's share of training the country's all-graduate teaching profession in the 1980s, according to a memorandum issued by the Department of Education and Science.

Figures given to the Advisory Committee for the Supply and Training of Teachers show that the new institutions will train over twice the number of teachers produced by the polytechnics. The average size of teacher training departments in colleges of higher education is also to be larger than in polytechnics.

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Sir Alex Smith.

defined as having less than 75 per cent teacher training students) 33,760 places; and colleges of education (19 institutions, defined as offering more than 75 per cent of places to teacher training students) 10,145 places.

The average size of teacher training departments is given as 490 in colleges of education; 557 in polytechnics; and 537 in colleges of higher education. Departmental size will vary from 300 to 1,500 in colleges of higher education and from 300 to 750 in colleges of education.

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Lord Bullock emphasizes importance of science

by John Ross

Scientific research will only get funds if the Government and the public are persuaded of its value to society, Lord Bullock, master of St Catherine's College, Oxford, said at the weekend.

Lord Bullock, created a life peer last week, was giving a presidential address to the Association for Science Education during its annual meeting at Oxford. Science had a tarnished image, he said, and this was reflected in the Government's attitude to research.

It is ironic that in the 1960s Government and universities should make provision for science on a scale appropriate to its importance, while the numbers wanting to take advantage of it declined.

Young people were alienated from science because it had created a technological civilization "which they see as inimical to everything they most value in life."

The Government was also disillusioned with science because it had not provided any solutions to Britain's economic problems.

Scientists must not view this matter with indifference, since men's survival would depend ultimately on scientific understanding, he said.

Science education did not simply mean training a sufficient number of scientists in each generation. Equally important was the education of those who were not going to be scientists.

Lord Bullock spoke of the need to combat "scientific illiteracy" in the community. Scientists should enlist the support of non-scientists to discover the linguistic and conceptual stumbling blocks to understanding it he said.

Mr Mulley, Secretary of State for Education, called for a greater effort to attract school leavers to science courses in higher education. Speaking at the association's annual dinner, he said: "Despite all their problems, we look to present teachers to make every effort to produce the qualified school leavers, not only able but also willing to take up the places in our universities and polytechnics. It is said that today there should be so many unfilled science places for lack of qualified students."

He also indicated his support for the "teaching companies" scheme for training engineers in industry. "While maintaining a research capacity in fundamental sciences we must increasingly direct our efforts into fields which will have, at least in the medium term, a direct bearing on technology and manufacturing industry. The proposal for teaching companies recently announced by the Science Research Council is the kind of thing I have in mind."

Sir Frederick Dalton, chairman of the University Grants Committee, projected similar concerns in his inaugural Muffield Foundation Science Education Lecture "Science for Survival".

Sir Frederick said that man must strike a new "planetary bargain". If both the population and the demand for raw materials were to increase without check, it would be a question of "when" rather than "if" disaster would overtake us.

Man's future strategy must be to design products with a longer life-time and to recycle raw materials wherever possible. "Careless use of resources is manifest in all human activity," he said. "The global per-capita demand for energy was increasing, and we would need to make use of natural energy sources such as solar and geothermal energy."

He ended by asking for a clear description of the objectives of education, that could be reasonably attained in the country's impoverished state.

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Jane Austen



Barbara Hardy discusses three new books about the author of *Pride and Prejudice* and *Northanger Abbey*, page 14

The moon and Newton
Clive Kilmister reviews the latest volumes of Newton's letters, concerned with fluid physics and the motion of the moon, page 16

Violence
Anthony Arblaster on left and right wing attitudes to definitions of violence, page 13

Regional collaboration
Raymond Robbins and Roger Carus discuss devolution in higher education using the South-West region as a model, page 8

Views
Rosalind Mitchison on the MCPs of the income tax and Registrar-General's offices; Kenneth Minogue on the price of ideas, page 5

Academic jobs
More than seven pages of jobs in universities, polytechnics and colleges, pages 13-24

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an "idea" in the primitive sense that he has made a suggestion to fill what was previously a blank in the minds of those who faced the problem.

The drop in women applicants for teacher training may provide a bonus for polytechnics and colleges of higher education, which are offering new liberal arts courses. It seems unlikely that women school leavers will stop entering higher education and the only alternative may well be humanities degrees or the Diploma of Higher Education.

shapes and sizes. The bright-eyed novice of an advertising agency who suggests associating the product with a bikini-clad girl has had

LETTERS TO THE EDITOR

Colleges' role

from Mr Graham Stodd
Sir—Your report about the thinking of the directors of polytechnics, although strongly denied by Sir Alec Smith, nevertheless raises a major question about the future quality of teacher education (THES December 19).

Your leading article on Scunthorpe (THES November 14) and a later leading article in *The Times*, both point to the fact that there is a strong possibility that the most in diversification that many colleges of education and of higher education can hope for is the diploma of higher education.

The James report on teacher education envisaged the growth of the Diploma of Higher Education in the colleges of education, and saw it as providing a first port to subsequent professional teacher training or as a terminal qualification. The report, however, went on to state that "some might go on to train for certain other professions and some might move on to degree courses in universities, polytechnics or within the college system" (James report 6.7—my italics).

The Government White Paper, *Education: a framework for expansion* published only a year or so later, clearly stated (para 160) that "a college of education which expands and diversifies... will not be easily distinguishable from a polytechnic" and again (para 152) that "some colleges will develop into major institutions of higher education concentrating on the arts and human sciences with particular reference to their application in teaching and other professions".

The reported thinking of the polytechnic directors would limit the fully advanced work in the colleges of education to the BA degree and might be seen as making the polytechnics indistinguishable from the technological universities.

The purpose of this letter is to argue that both the polytechnics and the newly created colleges should keep their comprehensive quality of two, three and four-year courses and that the colleges of higher education should be allowed to develop, as envisaged in the White Paper, as institutions complementary but equal to the polytechnics.

There are many weaknesses in the colleges, but these can largely be attributed to the monotone quality of teacher education in the past.

Professor Boris Ford, writing in the winter, 1974, issue of *Universities Quarterly*, homed in on the key issues "... the staff at present in many colleges, have no time for serious intellectual life or for research. Colleges seem to have a deplorable record for over-teaching the process of coming to maturity as an institution of higher education is awkward and painful; if the colleges are to remain in being... they will need to be helped to acquire a grasp of what it means to function intellectually at a diversity of academic levels, all of them informed by research".

The thinking of the directors of polytechnics would not allow this last point to happen and on it depends the future quality of teacher education in this country.

Yours faithfully,
GRAHAM STODD,
Bishop Otter College,
Buxton,
Sussex.

The gasman cometh

from Dr. C. G. G. G.
Sir—Dr. C. G. G. G. (THES December 26) on arguing with the gasman about the merits of knowledge for its own sake was interesting, but there is one important point which he did not touch on: the analogy with the education of a gasman.

The gasman, no doubt, supports a football team, and does not make any money apart from the training of his apprentices. He is not a gasman because he is a gasman, but because he is a gasman.

Yours faithfully,
DAVID KERR,
St. John's Wood,
Buckingham Palace.

University of Rhodesia

from Mr Alan Phillips
Sir—It is a pity that Professor Hill is not more sympathetic towards the problems of African students at the University of Rhodesia. His letter (THES, December 26) in response to my article (THES, December 5) fails to recognize that when Africans enter the university they believe the Rhodesian educational system to be harshly discriminatory.

Hence it is surprising to find a professor of education seeking comfort in African secondary schooling by comparing it with that in France in 1945 after five years of enemy occupation. It would surely be more appropriate for an educationist to compare the very wide divergence of educational opportunities between Africans and Europeans in Rhodesia.

The way in which Professor Hill describes the demonstrations of 1973 involving over 150 African students as "coming within a hair's breadth of murder" is as remarkable as it is sad. Many academics in this country are well informed of the events of 1973, and this emotive and unsubstantiated statement will not help in promoting a truly multiracial university.

Philosophy

from Professor Roy Edgley

Sir—I hope you will permit me to correct at least one of the damaging misleading errors in Frances Hill's article on British Philosophy (THES, December 5). She says that "Sussex philosophy teaching follows the American pattern, making offerings in virtually every area of philosophy and allowing students a completely free choice of courses".

It is true that at Sussex we offer an unusually wide range of teaching in philosophy. But the briefest glance at the current Sussex BA syllabus would have shown that we do not allow students "a completely free choice of courses".

In each of the five schools on the arts side, for example, each philosophy undergraduate must take either a course in Descartes to Kant, or a course in logic and epistemology, or (in one school) both. There are areas of choice. But the restrictions and recommendations, together with the supervision exercised over each student's combination of courses, are aimed primarily at avoiding the free-for-all mish-mash, American or not, that Miss Hill falsely attributes to us.

These mistakes, which a moment's checking would have corrected, raise questions about how Miss Hill collected her information and misinterpreted her information. She quotes a few philosophers, whom she presumably interviewed, if only by phone. Was her method to take for granted their descriptions and impressions of the philosophical situation, including the state of philosophy in universities other than their own?

At one point she remarks that "the journal *Radical Philosophy* tends to be regarded as lightweight and rather naive". Regarded by whom? Again, she says "Lancaster and East Anglia, as well as Sussex, are mentioned as having gone too far in providing an *a la carte* philosophical menu". Mentioned by whom? She does not say.

But these opinions and mistakes suggest a common bias in their source among the philosophers she interviewed, especially those "in more traditional departments" (to whom) this freedom borders on the scandalous. What is scandalous is that these opinions should be unattributed, and these falsehoods accepted and presented without question as hard facts.

What we seek to do in philosophy at Sussex is to realize some of the ideas of the inter-disciplinary idealism on which Sussex was founded: to design and teach ways of philosophy courses that are appropriate to the concerns of each school, and which relate substantially to the subjects studied in each school.

It also means that in relation to the tradition the aim tends to be to subvert it. An article concerned with "current changes in English philosophy" that consideration would

a thoroughly unsatisfactory situation for a truly multi-racial university. Similarly, the edited article omitted the subsequent paragraph stating, "although there is no clear evidence to imply that the body of white academic staff is racially prejudiced or that the university, as such, would countenance any proven case of racial discrimination, very few of the European staff have the confidence of the African students".

This is a key point evident to anyone communicating with African students, and it is clear that the university must take, and be seen to take, immediate action to restore confidence.

Finally, the most important point excluded was that it is of great importance to the long-term needs of Rhodesia that opportunities be available to Africans to study at the university. In spite of its many weaknesses, the university can fulfil an important role if its members are prepared to take criticism constructively and build a genuinely multi-racial university. I hope they will.

Yours sincerely,
ALAN PHILLIPS,
General Secretary,
World University Service (UK).

In the early days his prime concern was with welfare, and his was the mind behind NUS initiatives on student health services and student entitlement to social security benefits.

Over the years his interests and developing expertise lay increasingly on the legal side, culminating in his formation of the NUS legal department in 1972. He was possessed of a unique understanding of the developing case law that applied to student unions and of the legal relationship between the unions and their parent institutions.

Nowhere was this knowledge more valuable than in the campaign to preserve union autonomy in the early 1970s. Never afraid to assert legal reality over political expediency, his counsel may at times have frustrated, but it never misled. Much of the case law which has guided the NUS through the court cases that established that it was the writ of natural justice, not of paternalism, that ran in the colleges.

His ability to distinguish, yet blend legal and political advocacy, reached its culmination. He was the author of the union's much acclaimed guide to tenants' rights, and he was the legal mentor of those of us who aimed to sue the law. For those who would judge him as a great teacher, a man who could inspire a study and appreciation of the law and its relation to political action.

He will be greatly missed by staff and students of the union, past and present, who were touched by his unfailing kindness; but above all by those who never knew him personally, the generations of students for whom "student rights" is now not a slogan, but a reality.

Yours faithfully,
JOHN RANDALL,
former NUS president,
Kingsbury Road,
London, N.W.9.

Sheffield walk-out

from Mr David Kerfoot

Sir—In an article headed "Jeering students" (THES, December 12) Anniel Perrin refers in the last paragraph to the fact that a meeting between union leaders and Mr Mulley after the attempted boycott was disrupted by students.

I wish to make it clear that this was not an official action of Sheffield Polytechnic Union of Students. My union's walk-out was a spontaneous act of protest against the present cuts in education expenditure and also against the proposed opening ceremony of the library.

Sheffield Polytechnic Union of Students are always prepared to talk to the management. Yours faithfully,
DAVID KERFOOT,
Students' Union President,
Sheffield Polytechnic.

Fact and faction

from Mr S. M. Gardner

Sir—Newcastle University Students' Representative Council put a deal of time, money and effort in putting a motion on the Scarborough conference floor at Scarborough concerning the change of the current system for electing officers of the NUS to one in which every student could vote.

The proposal was, I believe, defeated largely on the informal supplied to conference by Stewart concerning a letter from the Electoral Reform Society.

He said: "Members of each union, speaking against an amendment, and indeed against a substantive as well, would be to reassess the right of this union to determine its own rights in terms of its democracy. I think that all of you have been democratically elected delegates to a conference. We do not believe in a national executive that has no ill feeling or misgivings on a question of democracy in a national union."

"We believe that the issue of democracy is something that is to be raised on the floor of a national conference, and that why we wrote to the Electoral Reform Society and asked them very questions that you would be asking. And their reply was that the proposals being forward in this amendment were embodied within the subcommittee were unwelcome, and that they were quite unprincipled. The not coming from the executive is coming from the Electoral Reform Society."

Having later obtained a copy of the Electoral Reform Society letter I can see no such statement.

Al Stewart succeeded in demanding to many students the political bankruptcy of the NUS and has devalued the role of NUS in its ability to help students.

Yours sincerely,
S. M. GARDNER,
President,
Students' Representative Council,
Newcastle University.

NUS in Europe

from Mr Alastair Stewart

Sir—As leader of the NUS delegation to the 13th European meeting of NUS may I take issue with some of the points in your correspondence. The NUS has been in the "left" of the British left from the left (THES January 2).

Your correspondent, whilst repeating the fact that all NUSs press agreed to the final communiqué, failed to report the fact that the communiqué was an appendix. This rider alone, combining the two subjects, is being explored.

Nearer to gaining the approval of the Council for National Academic Awards is the department's proposed one year certificate in education.

The course, which would be run in collaboration with the teaching studies department, would be for qualified nurses with at least two years practical experience and competence in a specialist area. It would have the advantage of qualifying the student to teach a whole range of nursing subjects, such as health visiting and community nursing.

Other courses being considered include a part-time BA in nursing and a master's degree in health service administration, to be planned in conjunction with the University of Durham's business school.

The Yugoslavs did not expect to be told they represented a capitalistic country. We sustained their indignation by making such assertions. We are getting used to the NUS slurs based on misinformation and lies from such quarters as the Department of Education and Science. Can we no longer expect the usual high standards of fairness and honesty we have come to expect from THES.

Yours sincerely,
ALASTAIR STEWART,
Deputy President,
National Union of Students,
Endelshay Street,
London.

UK's first poly nursing degree in the pink



Interest in nursing degree increases.

Britain's first polytechnic nursing degree at Newcastle has now entered its third year and with 18 applicants for every one of its 18 places its future looks secure.

The degree is run by a rapidly expanding division of the department of welfare and nursing studies, which now has 130 full-time nursing students and 200 on short courses, compared to a total of 160 three years ago. The department's 43 members of staff are almost equally divided between its two sections and of the five research associates three are involved in nursing research.

While the launching of the nursing BA has been the achievement which has attracted most publicity, the division also offers seven other courses and has on hand three full-time research projects and a plethora of course proposals. Part-medical studies is an obvious area of development for a polytechnic situated next to a large medical school and enjoying very close links with the area health authorities—the Regional Nursing Officer, Miss D. Blackmore, for example, now sits on the polytechnic's council.

Diplomas in occupational therapy and physiotherapy are being considered and even the idea of a full-time physical therapy degree course, combining the two subjects, is being explored.

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Broad approach to energy

Sheffield University is to introduce a broad-based degree course in energy studies in October, 1976. It will have an entry requirement of three A levels, but these need not all be in science subjects.

Dr D. J. Brown, the admissions tutor, says that some interest had already been shown in the course, but that it was difficult to predict the number of applications.

The course, BScTech, aims to provide a broad education in all aspects of energy and to prepare students for employment in industry or government as energy specialists. Teaching will be shared by an

ACADEMIC DEVELOPMENTS

Graduates turn to accountancy

by Frances Gibb

Accountancy is increasingly becoming a graduate profession. Accountancy degree courses are springing up both in universities and polytechnics, and each year accountancy and other graduates form a larger proportion of students registered with the Institute of Chartered Accountants.

In 1969 there were 4,232 students registered with the ICA in England and Wales of whom only 19 per cent were graduates of British universities. Three years later, in 1972, these figures had grown to 5,565 and 31 per cent respectively.

About 12 universities now run degrees in accountancy, with some 30 more running courses with accountancy as one of the principal subjects. There are an additional seven degrees at polytechnics.

Firms are therefore having to direct their recruitment efforts more and more at the universities. Robson Rhodes, a medium-sized firm of accountants, is representative of the changing attitudes to graduate recruitment.

Mr Malcolm Hardy, one of its partners, said: "Every accountancy firm with more than 100 employees realises that you have got to recruit the graduate. When we interview someone straight from school, we usually find he's not up to it academically."

About this time of year firms all cast an eye on the universities. Robson Rhodes selects about a dozen universities considered worth visiting from the point of view of how many potential accountancy students they yield.

This year the lucky ones are London (whose colleges together produce about 250 candidates), Oxford and Cambridge, which each produce about 120, Leeds (80), Bristol (58), Reading and Southampton (50 each), Lancaster, Sheffield, Exeter and Nottingham (40 each), Hull and the London School of Economics (30 each). Bradford is also to be visited.

Since a visit takes more than a whole day of both a senior partner and the personnel manager's time, it has to be worthwhile. "We wouldn't go to Sussex, for instance, which produces no more than 12 candidates. You would be interviewing to get just one candidate," Mr Hardy said.

Institutions offering degrees obviously have a high priority. The leading three, apart from London and Oxford, are Bristol, Lancaster and Exeter. These three will turn out anything up to 50 or 60 students

who will enter the profession," Mr Hardy said.

Some universities hold "accountancy weeks", when all the firms come at the same time. Where this is not the case, firms rely on their contact with careers officers to ensure an early interviewing date in order to reap the best candidates.

Demand is apparently even more buoyant this year than last. "Industry has less money, and students who would have read for further degrees have not got grants, so a massive number is saying: 'What should we do? One of the professions that seems secure is accountancy: they can see there is an enormous amount of work and that it must be pretty safe'," Mr Hardy explained.

One sign of this is that, normally Robson Rhodes makes offers up to September. Last year it stopped making offers in April and it looks as if the same will be the case this year. Secondly, firms normally vie with each other to get the best candidates by tricks, such as raising the starting salary of students by £100. (At present a trainee at Robson Rhodes starts at £2,100 to £2,400. Next year it will be £2,200 to £2,500.) This year, however, the extent of the demand makes this unnecessary.

About 10 to 12 candidates are interviewed at each university for an hour. The process requires a nice balancing of supply and demand: Robson Rhodes, for instance, recognises that as Oxford produces one in three candidates taking up their offers, so the firm works on the principle of making three times as many offers as there are places.

Roughly half the entrants are recruited from visits to universities and half as a result of students making independent visits to the office. The take-up on offers is higher among students coming independently: 72 offers were made in this way last year and 24 accepted, compared with 72 made at the universities of which 17 were accepted. This is because universities are visited by all large accountancy firms and a student has a choice on their doorstep.

Selecting candidates on the basis of a one hour interview is difficult. Both the partner and the personnel manager sit through the interviews; the former to conduct the latter to ensure continuity between universities and to help keep up the momentum of the interview.

The firm works on the principle that a student should be told immediately whether or not he has been accepted. Roughly half out of about 10 would be made offers; three or four rejected and about two might

be borderline cases, but this varies from university to university. Students who are rejected are told why.

The kind of criteria used for selection are general motivation and interest—whether a candidate is really interested in accountancy for the sake of accountancy or because he cannot think of anything else—whether or not he has bothered to find out about what accountancy involves; his personality and general presentability; academic record to date, which sometimes involves a tutor's report, and his O and A level grades.

Students are asked to give an estimate of how they will fare in their final examinations. "At the moment we are toying with the idea of saying that unless a student gets what you estimate he is going to get, the place is not available; in other words, making the offer conditional," Mr Hardy commented. He would not set the requirement at an upper second class degree. "The majority achieve a lower second."

Oxford and Cambridge still get more offers than anywhere else, but the take-up is less because of the competition among firms. About six candidates at Oxford will accept although around 40 offers will have been made.

A hierarchy among universities is still very much acknowledged. Oxford candidates start on a salary scale about £100 higher than other entrants at Robson Rhodes. "One recognises that as Oxford produces one in three candidates taking up their offers, so the firm works on the principle of making three times as many offers as there are places," Mr Hardy said.

The polytechnics, not yet visited, although some receive a copy of the firm's brochure giving details about its composition, philosophy and training. About one per cent of entrants this year is from the polytechnics.

The careful sifting is not only for immediate benefit. For each of the 40 graduates selected, about five will drop out. Then of the rest, only one, six or seven years after qualifying, will become a partner. The rest will go to other firms or into commerce.

To train the 150 graduates going through the firm each year (training lasts three years), the cost is about £150,000 a year, including professional tuition, and loss of professional time.

But the wastage can be minimized to some extent. As Mr Hardy explained, "If we can instil into the student that when he leaves he owes all to the firm, and can still say he is a Robson man, then that is a long way ahead."

Change to modular system brings in parapsychology

Parapsychology, sexism in education, and the future of the North London courses cater for a very high proportion of mature students—more than half the students are over 21.

The course is of particular interest to students waiting to become primary school teachers. The department has a long-standing interest in the teaching of reading for secondary school age and beyond, and in teaching English as a foreign language.

Students specializing in primary school education will take the primary school curriculum as their main area of study with numeracy and literacy as its main strands. The department has a long-standing interest in the teaching of reading for secondary school age and beyond, and in teaching English as a foreign language.

They differ from the polytechnic's former university-validated courses in that they are based on a modular system. Students will take a total of 24 courses or modules over three years, each of which will be professional courses.

Another difference is that mature students entering the certificate course without the standard qualifications will be able to proceed to a degree course at the end of either the first or second year. However, they could only proceed after qualifying standards.

Taught master's in sociology

Students at the Polytechnic of the South Bank will soon be submitting research dissertations for one of the first taught masters' degrees in the sociology of education in the further education sector.

The two year degree, validated by the Council for National Academic Awards, is intended for part

Communication takes in TV, Chomsky, cinema

Communication at Liverpool University is a one-year course offered as part of combined honours degree courses in arts, social and environmental studies. It is run by the Centre for Communication Studies and will be coordinated by John Thompson, who believes it is the first university course in communication. He hopes that a full three-year degree course will follow.

Mr Thompson explains that it will be organized in four quadrants, two in the first term and two in the second, leaving the third term free for concentration on particular aspects of the curriculum.

These are:
● The psychological background to communication including the notion of communication circuitry.
● The media.
● The linguistic method.
● Language acquisition.

The course organizers have chosen deliberately to concentrate on the liberalizing aspects of communication, rather than a hard, science-based approach.

The book list prescribed includes John Lyons on Chomsky, *The Effects of Television* edited by James Halloran and *Signs and Meaning in the Cinema* by Peter Wollen.

There will be a three-hour paper at the end of the course and this will be used chiefly for assessment. It will be essentially a second year course.

Why the South West is ripe for a bold initiative in devolution

The future planning and control of higher education is closely related to trends towards devolution, and few concerned with the management of institutions in this sector are not reflecting on the outcome of developments in this direction.

It has become almost fashionable to see significant benefits arising from a change in the nature of central government, coupled, of course, with the creation of effective regional planning machinery and adequate associated finance. It is this last which makes the outcome of the Layfield Committee on local government finance so important.

Some futurists are looking to Scotland and Wales as offering potential models of regional government which might ultimately be appropriate for England. The nature of assemblies in Scotland and Wales has received much discussion, and there is little doubt that devolution will bring considerable independence over education, although the Scottish universities have been strong in their opposition, and it appears that this has been successful.

The complexities of an effective regional structure in England, however, are considerably more defined in social or geographical terms. Nowhere in England is a regional identity more clear than in the South West.

The main consequences for institutions of higher education lie in the relationship of national planning to regional and local authority structures, and to the institutions themselves, which are undergoing rapid changes through amalgamation and rationalization.

The functions and membership of the new regional advisory councils which may emerge are therefore of great importance, although those which have been suggested by the Council for Local Education Authorities can be criticized precisely because of the absence of national body to guide their planning.

Not everyone is equally enthusiastic about the existing regional councils, and a system which per-

Raymond Robbins and Roger Carus discuss the possibilities of regional co-operation in higher and further education

petuates a structure with four effective levels of control would show little benefit to the system as a whole.

There is already evidence that a useful structure can be developed on the basis of national planning and resource allocation, coupled with local development and control, through the working of the Universities Grants Committee.

The universities seem seldom to complain about such a structure. The guidance at a national level on control parameters governing resources for course development may be viewed with scepticism, but it is used assiduously.

Similarly the emerging shape of the Technicians and Business Education Councils reflects contemporary thinking in further education, by coupling central planning with considerable local freedom.

If these approaches are correct—as many believe them to be—is it not proper to consider the shape of higher education generally? The techniques and institutions of higher education both at an early stage in their development, they are still undergoing change, which makes them particularly conscious of the inter-relationship between different components in the planning process.

Perhaps the time has come to raise again the notion of a Polytechnic Council—or, even better, a Higher Education Advisory Council. Such a development would assist a control system based on either a regional or local authority by providing guidelines for planning and resource allocation.

In the South West, awareness is growing about such issues not only because of its regional identity but

also on account of the nature of the developments taking place. At around the time the Plymouth Polytechnic was formed, the South West Regional Planning Council published a pamphlet entitled *A Region with a Future*, and drew attention to the coming development of higher education.

More recently Professor Robin Todley of Southampton University has advocated the development of a regional identity for universities, possibly influenced by his own experience in the South West.

It is worth speculating on the possibilities of a pattern of higher education developing in the far South West focusing on the polytechnic, and embracing not only the College of Education of St Mark and St John but also, perhaps, Dartington College of Arts, Seale-Hayne Agricultural College, Rolle College of Education, Exeter and Plymouth Colleges of Art and Cornwall Technical College.

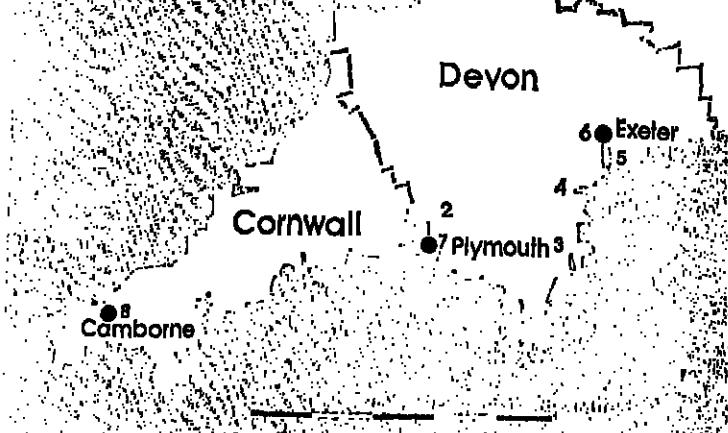
Discussions are taking place with all of these institutions. To varying extents, all of these institutions derive from a national catchment area; all provide high-quality higher education and thereby obtain their resources from national sources.

If a structure could be evolved permitting a high degree of institutional autonomy coupled with a close identity between planning and resource allocation, then much could be achieved quickly and economically.

Taken together, these proposals point to a national advisory body providing guidance on the scale and general nature of regional plans for higher education.

This would possibly be backed up by a strengthened government inspectorate, with a research division producing reliable data, as well as providing the financial resources to the regions through a successor to the Advanced Further Education Pool and with help from CLEA.

At the regional level reformed regional councils could provide a meeting place for the institutions and the local authorities to agree the planning and resource sharing; such arrangements would not pro-



Institutions of higher education in the South-west of England include: (1) Plymouth Polytechnic; (2) College of Education of St Mark and St John; (3) Rolle College of Education; (4) Seale-Hayne Agricultural College; (5) Exeter College of Art; (6) Dartington College of Arts; (7) Cornwall Technical College.

vent the ambitious authority from choosing to invest a higher proportion of its resources in the institutions under its control.

At the same time it remains clear that further education which relates closely to the local community should remain much more clearly a matter for the local authority concerned. It is also clear that the regional structure should provide further education as the national HEAC will do for higher education.

If the kind of recommendations suggested above were adopted, then the changes involved would be minimal and this would be welcomed by the institutions which have recently faced a stop-go economy.

It would also be welcomed by the authorities, who are only now recovering from the reorganization of local government. It may well be that a new structure which builds upon the strongest parts of the existing system will also have the greatest chance of success.

The most difficult matter to resolve is the overlap between further and higher education. The remains an understandable division of opinion between those who prefer a clear distinction between courses and institutions serving two parts on the one hand, and those who see no significant differences on the other.

Whatever the rights and wrongs of this distinction, it is clear the blur between the two is a permanent feature, but one which is committed authority remains in more than a debate among experts.

In this part of the South West the outcome of the discussion: devolution, on local government financing, and on the organization and control of higher education, is awaited with considerable interest.

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Adult literacy campaign draws the crowds

Frances Gibb reviews elements which have contributed to the successful start of the Government-sponsored adult literacy drive

The Government's grant for the adult literacy campaign is now almost entirely used up. Every local authority in England and Wales has received a share of the grant and contingency plans have been drawn up for asking out the benefits as far as they will go.

The BBC will into its three-year £750,000 programme for literacy with the television series, *On the Move*, running three times a week and a radio series for literacy tutors once a week.

So far some 10,000 adults with reading and writing difficulties have come forward through the BBC telephone service advertised at the end of each programme, as have about 10,000 volunteer tutors. All these names and addresses are referred to their local authorities.

Nor is this the total extent of the numbers coming forward. In the Inner London Education Authority, for instance, some 1,200 students applied for tuition and over half of these came direct to adult education centres as a result of publicity about the scheme. Over 30,000 in all have responded to the campaign.

The BBC handbook which accompanies the television programmes will shortly be running into its third reprint after selling more than 50,000 copies. The handbook for tutors has sold 35,000 copies, although it is hard to tell from these figures how many are bought by adults with reading difficulties and how many by parents for their children.

The literacy tutor's pack, produced by the Adult Literacy Resources Agency, which is administering the £1m grant, has sold nearly 10,000.

There is no sign of diminishing demand. The BBC telephone referral service dealt with an average of 1,000 queries after each programme. Catherine Moorhouse, director of the ILEA literacy schemes, said: "People applying now have taken several weeks to pluck up the courage to come forward and these are the last ones we want to keep waiting. Ironically, the places have been taken by the more confident."

To cope with this group the ILEA is already using an emergency provision at County Hall to act as a pool for all students and tutors who cannot immediately be placed. This idea is that students and volunteer tutors will be learning simultaneously; the tutor will be matched with a student, who will then receive tuition and the tutor himself will

stand of their interests and aims. But the balance is a tricky one and the "client" may well find his self being sold the slick and simple solutions of "small group teaching" or "tape-slide sequences" without any real insight into his curriculum problems and needs.

I think all this is important in applications for the kind of person who works in this field, and I suspect that his reason for coming to adult education is not so much to help others as to help himself. A model like that suggested above for the South West might be the answer.

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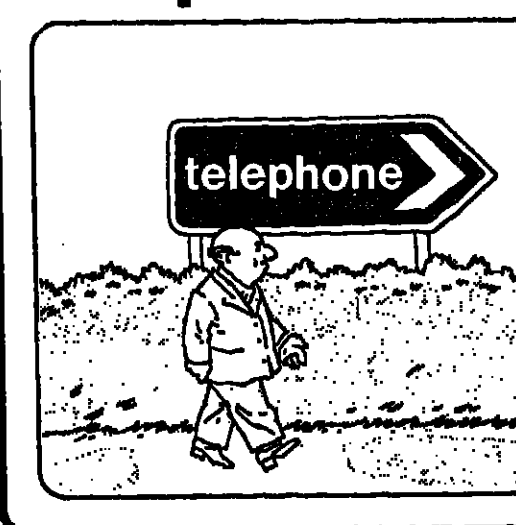
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TELEPHONE telephone



Teaching material for the BBC 'On the move' programme.

be receiving instruction on how to teach literacy. With the new year, however, demand is likely to be renewed as a result of a publicity boost for the programmes in the form of commercials on ITV commissioned by the Central Office of Information.

The Resources Agency under Mr William Devereux is working out ways of spreading the expertise acquired over the last few months to its maximum capacity.

First, there is the training: three workshop conferences are planned to bring together two or three trainers from each local authority to sift out the ingredients of good training and practice from the last year.

Second, there is the equipment: workshops are also being planned on teaching materials. At the same time many local authorities are setting up Devereux's contract which brings together both teaching expertise and materials. Such centres are manned by a professional tutor who supervises tuition by volunteers in the way the ILEA temporary provision will operate.

At the same time the literacy symbol was produced, and it has now become the campaign's trademark, appearing not only in shop windows, libraries and factories to advertise schemes but also on all material for the BBC programmes.

As publicity the BBC sent to various firms and organizations the first few chapters of the *On the Move* written material free of copyright so they could be reproduced. Tesco supermarkets, for instance, distributed the chapters free in all of its 800 stores, used by some eight million people.

Such a dispersed operation as the literacy campaign required some welding together, and so the resources agency produced a

monthly newsletter which now circulates among 20,000 of those involved, with news of the latest developments.

The agency really has an umbrella function; bringing together all the voluntary groups (most of which come under the British Association of Settlements, one of the prime movers of the campaign), the local authorities, and the BBC.

The BBC's work on the programmes began a year ago, although it was preceded by a couple of years' discussion. A production team spent about nine months piloting different versions of the programmes and testing them on some 500 non-readers throughout the country.

David Hargreaves, the producer of *On the Move*, explained some of the problems. "The audience responded well to film of ordinary people talking about their lives, but negatively to material which was too quick-fire. They also responded negatively to any humour which they thought, even though wrongly, might be directed at them."

Finally they came up with *On the Move*, starring Bert and Alf, two removal men. Alf is quick and witty; Bert is quiet and slower. Alf has difficulty with reading, just as Bert does with driving. Their dialogues are accompanied by animated films of words, letters and signs common in everyday situations and interviews with adults overcoming their reading problems.

There is also a series of eight

blockage by pay arrangements such as an extended maximum.

For professors there should be a partial salary scale paying at the same level as those considered to be "higher grades" in the public sector.

The AUT admits this scheme has disadvantages. Not all lecturers would proceed to senior lecturer at a reasonable age and different universities might operate the system differently. If at some future stage there were a large recruitment of young staff there could be a lower ratio than at present of senior to junior staff.

The alternative scheme which the AUT is considering involves a single career lecturer grade starting at the tenth point of the existing lecturer scale, about £5,000, and ending at the top of the present senior lecturer scale at £7,742 with an efficiency bar at the top of the present lecturer scale.

Before joining this scale the entrant to university teaching would be a "trainee on points four to nine (£3,786-£4,806) of the present scale. There would be a maximum period which an individual could spend as a trainee.

The disadvantages of this second scheme, the AUT admit, could be that probation became much more severe than at present. Similarly early promotion possibilities from lecturer to senior lecturer could be lost.

It is a large extent these rivalries that will, in negotiations, determine the movement of differentials for university teachers."

David Walker

David Walker

David Walker

David Walker

David Walker

David Walker

David Walker

Peter Sheldrake discusses the perils and pitfalls that lie along the path of curriculum research

Like any piece of new territory, the field of curriculum innovation is wide open to all varieties of charlatan and well-intentioned cranks and idealists. In recent years we have seen a number of forays into this inviting new land, attempts to invade the territory by salesmen from a variety of persuasions.

First, there is the technology freak, gleaming smiles preceding the presentation of a bewildering battery of elaborate machinery—the overhead projector, the videotape machine, or whatever.

Next, there is the earnest educationist, anxious to demonstrate the partisan virtues of behavioural objectives and the systematic approach to planning, no chromium-plating here, but the dull, burnished surfaces of earnest endeavour.

And now there is a new group at work. Action research in higher education, where the researcher intervenes in the situations he observes, has become increasingly popular among those concerned with curriculum innovation.

I must confess myself as one of this author, having recently finished a book on this style of research. I am left, examining up the advantages and disadvantages of it, with a mixture of scepticism and enthusiasm.

Well, what can we expect the sensible school to do if he turns to it for advice? What can we offer people who are very clearly on the point of giving up education? Some research might provide some insights from their experience, but

strangely enough, I feel we must be a little more cautious.

The crucial point is that much of the curriculum innovation that takes place is not reflected in an elegant new syllabus for a course, a sophisticated documentation of objectives and techniques, or the subtle use of new forms of educational technology. Rather, many of the more important changes are unacknowledged, and represent the changed attitudes and interests of the teachers.

More generally, I want to argue that at this point in time we need to do two things. First, we need to recognize a number of the characteristics of the situations in which curriculum innovations take place, and take due account of them in our work.

Second, we need to reflect a little on the role of the curriculum specialist, and assess the implications of the contract he draws up with his "clients", taking a careful look at the debts, as well as the credits.

If we begin by reviewing some of the characteristic features of curriculum innovation and its context, there are four areas that have become increasingly important.

The most important of these is our need to recognize a basic responsibility of the teacher—and person who takes the final decision about who should be involved in curriculum innovation—should be done, and how it should be done.

Second, we must always bear in mind the implications that curriculum innovation can impose on those who contemplate it. Involvement in revising a course, or changing the ways in which material is presented, inevitably make heavy demands on staff time and demand that must be weighed against other commitments that teachers already have to consider.

As the staff-student ratio continues to increase, so too does the need for time for research and development, if it is to be of any use. The need for activity, known as "administrative" success, and any work on curriculum innovation immediately begins to erode the precious margins in cost-benefit

terms a lot of curriculum innovation needs a hard and clear examination.

The next feature which needs to be stressed is that of the politics of the curriculum. There is, of course, a lot of lip service paid to the importance of academic policies, but we remain, nonetheless, amazingly impervious to the social and significance of this tricky world.

The point to be emphasized here is that curriculum innovation does have its political aspect: this is something that cannot simply be ignored, nor can the action researcher allow himself to become a pawn, pushed and pulled in the games that are being played.

Indeed, much real curriculum innovation depends not just on an awareness of political factors, but on coming to terms with them; on being able to cope with the necessities of changing patterns of authority and influence, and all that these entail.

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takes place through involvement. It is, sadly, easy enough to devise an attractive new programme, or to set up some alternative and ingenious system for presenting a block of material in a course.

Such changes are of little value, however, unless they capture the interests of the staff involved, and getting such staff involvement is often one of the major tasks and outcomes of any curriculum change.

All this makes the role of the curriculum innovation specialist a difficult one. People like myself are constantly tempted—both by ourselves and by the expectations of others—to play the role of "expert". But this we cannot really be.

The action researcher in curriculum innovation is basically of value as a facilitator, as someone who has insight and knowledge about relevant techniques and procedures, and who knows about related work which can be brought to the attention of those involved in course planning.

Indeed, eventually, the good action researcher must become re-innovator, as successful curriculum innovation takes place, so the need for some kind of "specialist" is superseded.

Obviously, in suggesting this I am implying that there is no major field of "curriculum innovation" which is the proper domain of a group of specialists. Rather, I see the area as a jumble of ideas, and knowledge, readily accessible to anyone, and necessarily eclectic, lacking in any special underlying framework or rationale.

As a result, we must be modest about what the action researcher can offer. Whatever his own background research skills and interests in the innovation situation, he must be nothing more than an honest broker between the planning team members themselves, and between them and the collective wisdom of the higher education research field.

At best, he may achieve more than this, and may help translate the immediate concerns of a planning team into a broader understanding of their interests and aims.

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Why so far and no farther on promotion?

Officers of the Association of University Teachers are examining what they consider to be a serious reduction in the chances of a lecturer getting promotion.

The main blockages are at lecturer and senior lecturer grades. The prospects of advancing beyond the lecturer scale—which has 17 points—are becoming increasingly limited. Likewise many teachers at the top of the senior lecturer/reader scale who many years to go before retirement have little chance of



The Times Higher Education Supplement (London) Room 541
National Press Building
Washington D.C.
Tel. 202 6386765

Washington's Georgetown University is a rarity among America's financially pressed colleges: it has turned a deficit into a surplus.

Balancing the books with begging-bowl and know-how

Georgetown University in Washington projected a deficit of \$1,800,000 in 1969. It had not balanced its budget since 1964. Today it has a healthy surplus, has doubled its annual expenditure and is about to launch an appeal for \$120m. Appropriately for America's oldest Catholic university, the miracle-worker was a Jesuit priest: Father R. J. Heile, president of the university.

Father Heile, a jovial philosopher, set about his task with the appointment in 1970 with the inviolable dedication of a medieval Jesuit.

He immediately froze all vacant positions, except for the university hospital. No department was allowed to buy any new equipment. New budgetary controls were imposed. Investment policy was changed, and money switched from stocks yielding high interest—doubling the income within two years.

Father Heile would not authorize any borrowing. Instead he went out fund-raising.

"In American fund-raising we have a maxim 'you never get it, don't ask.' I became very brash about asking." He recalls how he once went to meet a group of New York businessmen who were thinking of setting up a memorial endowment.

How much, Father Heile asked. They said they might just authorize \$100,000. He replied: "Gentlemen, tonight as well go home. I thought at least ending a chair. The minimum is \$500,000." By the end of the day, they had agreed on \$250,000, and Father Heile found a matching \$250,000.

Endowing chairs, he admitted, was simply a ploy to underwrite the cost of a department's salaries. In 1969 Georgetown had one endowed chair in pharmacology. ("In nearly 200 years, that's disgraceful.") Today nine are fully endowed, three pledged and eight are partially paid for.

Three departments are supported by foreign money: a Japanese foundation supports Japanese studies, the West Germans pay for a visiting professor and some Arab countries support a strong department of Arabic.

Father Heile hopes to use the German professorship as a lever to get money out of the French: a

Medics launch integrated training plan

A major reform in the pattern of medical education which may serve as a model for training in the health sciences will be initiated this spring at the University of Rochester, New York State.

It will break down the separation of pre-medical and medical education, prepare students who are not eventually accepted in medical schools for other careers in health and allow students to design courses best suited to their needs without having to follow a predetermined sequence. The "Rochester Plan" has been backed by a grant of over \$2m from the Commonwealth Fund.

The new MD degree will still take eight years, but instead of two four year units, one in college and one in medical school, there will be three units of two, four and two years.

The first two years will be general education, followed by four of biomedical science combined with social science and humanities. The last two will be clinical medicine.

The major change will be in the middle four years, which will integrate work now divided between the medical school and the college of arts and science.

The plan includes experimental early admission into the medical school for 16 second-year students who will work with advice from their tutors to design individualized courses of study.

More than 100 teachers were involved in designing the new plan. As well as medicine, it will prepare students for careers in biomedical engineering, public health, genetic counselling, biomedical mathematics, medical administration, nursing, medical economics and the application of medical science.

Georgetown has also begun a programme of "state planning"—telling the rich how to leave money in their wills. The university does not count on wills, for they can always be changed. But Father Heile believes a lot will yield money in the next 10 years.

He is not at all to exploit any source, including the religious aspect "which he sees shamelessly." Traditionally, Catholics in America have had little money—the Poles, Irish, peasants, and bigotry for years stopped non-Catholics giving to Catholic foundations.

This has changed. There are some rich Catholics, and many non-Catholics, including Jews, now support Georgetown because they admire its religious—not necessarily Catholic—outlook.

Georgetown now has an endowment of \$35m—the second highest of any Catholic university (though little compared with Yale's \$800m and Harvard's \$1,300m).

The result of Father Heile's six-year reign—he is to retire in June—is that despite two economic recessions, higher fuel costs and inflation, the university has now presented a balanced budget. Tuition fees have been pegged at \$2,900 a year—about average for private universities. Applications have doubled. In 1969 Georgetown accepted one in three, now it takes one in six.

The university recently launched its most ambitious ever appeal for \$50m by 1981—it already has collected \$40m. Father Heile will recommend his successor start a 10-year drive for \$120m.

Catholics urge 'revival of intellectualism'

Without a rediscovery of the significance of Catholicism, America's Catholic universities and colleges could not be expected to survive, a symposium of Catholic bishops and universities was being told this weekend.

The Rev. Donald Merrifield, president of Loyola Marymount University, Los Angeles, in a background paper warned 99 Catholic educators, including 16 bishops, that Catholic universities had become parochial, and secular in outlook, allowing the "key human disciplines" of metaphysics and ethics to become lifeless or fall completely out of their curriculum.

The time was ripe, he said, for a revival of intellectualism and critical thinking in those centres where the "ultimate questions of gold, salvation, sin, good and evil, and human freedom and dignity" still challenged Catholics.

He said the development of universities 500 years before the Reformation was one of Catholicism's greatest achievements.

In an over-eager attempt to be contemporary, however, Catholics had been caught "in a false ecumenism which reduces all the rich subtlety of Catholicism to a genial sense of brotherhood". Catholic universities should foster the integration of the human and divine, faith and reason.

Universities were not churches, and should not try to accomplish the same as a monastery, but pastoral care and some preaching of the gospel on the campus was not enough. "Pretending as orthodoxy", universities should present the authentic teaching of the Catholic church, said Father Merrifield.

Miss Anne Carr, speaking to participants at the recent Catholic Women's Ordination Conference, Michigan, said the Church had accepted women as sharing equally and fully in life.

Serious women, she said, no longer support a Church but on an all-time hierarchy of "tokenism" and "half-way" measures.

Ontario gets bumper aid package

The government of Ontario, Canada's richest and most populous province, has agreed to increase grants next year to the 15 universities supported by the province by 14.4 per cent. This is well above the 10 per cent increase in spending to which the Government has pledged to limit itself in all other fields as part of Canada's fight against inflation.

Announcing the \$651m grant just before Christmas, Dr Harry Parrott, Ontario's Minister of Colleges and Universities, said that an increase of more than 14 per cent was "very substantial".

The amount is only a little short of the total recommended by the Ontario Council of University Affairs—a newly established provincial equivalent of the University Grants Committee—and has delighted the council as well as most university presidents.

The Ontario Ministry also announced that for the next two years the arrangements for funding postgraduate work in universities according to the number of post-graduates would be suspended. Instead, each institution will get a grant geared to inflation rather than to student numbers.

This was also a recommendation by the Council of University Affairs, the aim of which was to cut down the proliferation of post-graduate studies.

San Francisco University has given notice to 111 teachers that they will be dismissed by the end of this year if the university's financial outlook does not improve.

A spokesman for the private university, which is now in deficit, said the trustees had been "judged on a balanced budget by one of the cuts in the university might have to make."

The numbers affected are a high proportion of the total staff: the



Part of Parliament buildings, Ontario: university heads are delighted with the Government's grant.

studies, so that universities, without losing money through lack of students, could concentrate on developing new and worthwhile post-graduate courses.

Ontario's 15 universities, like those in Canada's other provinces, have had to face the twin difficulties of inflation, which may be held down to 8 per cent, and increased students' numbers—up about 7 per cent on last year.

Taking both into account, the council reckons that this coming year the universities will just be able to hold their own on a 14 per cent increase. In the recent past, and last year particularly, the grant settlement fell well below what they asked for.

In the tables submitted to the Ontario Ministry, the council showed that universities had cut

their costs as much as they could. Most of them had their year of a budgeted deficit and ended it with a very similar figure.

This, the council said, was in spite of inflation that pushed up salaries and prices more than 10 per cent, and the fact that many universities suffered from a lack of funds for new library books, plant maintenance and replacement of obsolete furniture.

In short, the council said, they could not achieve their aim of maintaining levels of service. Unless they were dipping into their capital reserves—a sure sign of fiscal stress.

Texas, Oxford in geography link

A one-year academic exchange has been established between the University of Texas Department of Geography and the School of Geography at Oxford.

It will start this autumn when Dr Robin Doughty, Associate Professor of geography at Texas, will go to Britain and Mr David Brown, a lecturer in geography at Oxford, will go to America.

David Hencke reports from Bucharest on Romania's technological drive

Exams play key role in jobs pecking order

Bucharest Polytechnic, a new institution with 19,000 students and 1,500 academic staff, situated on a greenfield site on the outskirts of the capital, is a symbol of the new technological Romania.

Opened in 1974, the purpose-built institution has been constructed to standards higher than most British polytechnics. Despite sometimes poor equipment, it represents a commitment to science and technology which is lacking in most British universities and polytechnics.

Romanian students may not be particularly keen on engineering but the Government has skillfully directed the secondary school system to ensure that they find it more difficult to study arts, law and languages than science and technology: 75 per cent of the high schools are biased towards science and technology, for example, as against 25 per cent concentration on arts and languages.

Demand for places at some arts faculties under the last remains high: 20 applications for every vacancy in comparison with three per place at a technological university like Brasov.

Students taking a five-year degree (equivalent to a sandwich course) can expect to sit between 25 and 35 examinations, spaced out at six monthly intervals. In addition, students are marked for their performance in collective discussions and their contributions during seminars.

Students taking an engineering degree learn one foreign language, study philosophy, Marxism, psychology and management studies and are given a grounding in the arts during their five years. Prizes, often skiing or sea holidays, are offered to the best students in each faculty who perform well during examinations.

During their degree course students also take part in productive industry, which is usually integrated with the higher education institution. Thus, Bucharest Polytechnic has on campus a power station that generates electricity for the national grid and students at Brasov provide the labour and research for local timber and light engineering industries.

Student labour is "sold" to local industries which at the end of the year have to provide the students' union with additional student facilities for the use of all students. Different faculties of polytechnics and universities proudly display the amount earned from local industry.

Graduation from universities and polytechnics, however, provides the

most remarkable example of examination-oriented meritocratic competition. Every year a national list of graduates is compiled in each discipline from higher education institutions. After the examination results are announced, the list is published in order of merit of the successful candidates.

Candidates with the highest marks are offered the pick of jobs throughout the country. Those who receive the lowest marks are offered the worst jobs or those which nobody else will take.

Since degree curricula are nationally controlled after consultation with rectors, academic staff and students it is not difficult to establish an order of merit among students.

Student groups in each faculty elect their own representatives, who elect faculty representatives, who in turn elect university or polytechnic representatives, who finally national representatives who choose the Minister for Youth.

At local levels student leaders have considerable power over their colleagues. Group sanctions include the right to discipline colleagues for such "crimes" as refusing to participate in collective management of their hostel, being persistently drunk and regularly disturbing other students during the night.

Penalties can include recommending to the university authorities that a student should be expelled from his course.

Rewards for successful graduates are high in a developing country like Romania. Many technologists can expect to head new projects and play leading roles in founding new industries.

Wage levels are restricted by law so that nobody can earn more than six times the minimum wage of 1,600 lei (\$64) a month. The majority of workers earn between 2,000 and 2,500 lei a month. A lecturer's wage of 2,500 lei is lower than that of a skilled worker.

The cost of living, with the exception of some luxury goods such as cars and furs, is about half that in Britain. Public transport costs are minimal; bread, butter, meat and vegetables are cheap.

There is a system of compulsory home ownership for most skilled and professional workers while the rest of the population can rent property at about £4 a month. For the richer Romanians it is possible to build a second home either in the Transylvanian Alps or by the Black Sea. Most graduates expect to own their own house where some second homes well before retirement.

France

Watchdog body will advise on research coordination

from George Morgan

Measures designed to produce more coherent research policies in universities have been announced by M Jean-Pierre Soisson, Secretary of State for Universities. It is also planned to encourage closer co-operation between university research teams and the CNRS, France's leading scientific research organization.

A newly-created bureau will in future advise universities on research in order to produce a more concerted policy within each establishment. At present there is little coordination among France's 100,000 university teacher-researchers. Only one or three currently works in the context of a nationally established research programme.

Each university will be expected to focus its research on a limited number of areas of investigation in line with national and regional priorities.

In addition, a national consultative body will advise the Ministry on the annual research programmes submitted by individual universities. Funds will then be allocated to universities largely on the basis of the relevance of research projects to economic and industrial needs.

The new body, which begins work almost immediately, will contain 15 members, including ex-university presidents, research workers under

35, industrial heads and foreign experts.

A third advisory board has also been set up to ensure more co-operation between the universities and the CNRS, particularly in the elaboration of research programmes and the purchase of heavy equipment. The CNRS will also be expected to make a larger contribution to the financing of university-based laboratories.

Many academics are currently feeling indignant about the inferior status being attached to university research. At a recent symposium university presidents complained that their laboratories were being used as glorified hostels where the national research bodies were installing their teams.

They claimed, too, that the national bodies were creaming off the best post-graduate students with the lure of full-time highly paid research posts.

In an attempt to rectify this, M Soisson has now announced a new system of awards for post-graduate scientific research students. Instead of receiving a £60 a month grant in line with other post-graduates, they will be paid a research salary worth over £220 a month.

Available for three years instead of two years as at present, the new awards will cost an estimated additional £2m.

NOTICE BOARD

Chairs

J. R. M. Copeland, at present senior lecturer, Institute of Psychiatry, British Postgraduate Medical Education, University of London, has been appointed to the chair of psychiatry at the University of Liverpool.

Dr P. C. B. Phillips, lecturer in the Department of Economics, University of Essex, has been appointed professor of econometrics and social statistics, University of Birmingham.

Appointments

Universities

City Lecturers: S. Fouchtwang (social science and humanities); H. Karsten (statistics). Temporary lecturer: R. D. Barron (social science and humanities). Senior research fellow: C. F. Legg (social science and humanities). Research fellows: M. C. Brion, M. C. D. Bleher and A. Tinker (social science and humanities). Honorary visiting research fellow: B. N. Nicholls (social science and humanities).

Heriot-Watt Lecturer: R. A. Paxton (business organization); Marine scientist: J. P. Appleby (Institute of offshore engineering).

London Dean: Professor J. Swarbrick (School of Pharmacy).

Stirling Research assistants: J. K. Phillips; N. E. Synodinos (psychology); C. Cavanagh, J. Sim and E. Wozniak (sociology).

Swansea Vice-president: Dr Eited Thomas.

Polytechnics Sheffield Heads of department: I. Drifan (computer studies); R. Wilmet (accountancy and professional studies); J. Nick Robinson (economics and business studies).

Colleges Bradford Vice-principal and director of academic planning: P. Chambers.

Luton Deputy director: B. Gomes da Costa.

General The Royal Society The following have been appointed vice-presidents for the year ending November 1976: Sir James Menter, treasurer; Sir Bernard Katz, biological secretary; Sir Kingsley Dunham, foreign secretary; Sir Alan Cottrell, master of Jesus College.

Professor G. S. Davies, professor in the University of Oxford; Professor J. Sutton, Imperial College of Science and Technology.

Mr Tom Dickson, senior training adviser for the Hotel and Catering Industry Training Board, has been appointed its training manager for Scotland.

Recent publications

School Travel and Exchange 1976 (published by The Central Bureau, 43 Dorset Street, London W1P 9SP). This authoritative guide devised to help teachers, parents and pupils organize purposeful educational holidays in Britain or overseas.

Scientific Research in British Universities and Colleges 1974-75 (published by The British Library, Store Street, London WC1; available from HMSO bookshops: Vol 1, £14.80; Vol 2, £11.25; Vol 3, £10.85). A reference guide to current research in universities, polytechnics and colleges, with coverage of the research field with economics and scientific engineering aspects listed.

A Qualification in Marketing (published by The Institute of Marketing, Wood Hall, Cookham, Berkshire, SL5 9QH) is a new careers booklet outlining careers and qualifications in marketing for the school leaver, university graduate and junior executive.

Subscription order for Index on Censorship (December 5) should be sent to Oxford University Press Journals, Press Road, Newstead, London NW10 0DD. Subscription price for 1976 is £5.00 (plus postage). Also for Theatre Research Journal, the first issue of which appeared in December. The subscription price for three issues is £6.50.

Vacancies for Graduates 1976 and Vacancies for School Leavers 1976 (published by The Institute of Cost and Management Accountants, 63 Portland Place, London W1N 4AB) are two new booklets listing vacancies for trainees in cost and management accounts. They indicate company names, addresses, estimated number of vacancies, location and approximate starting salary.

Forthcoming events

A series of seminars organized by Film and Community Action will be held on January 13, 20 and 27 at the ICA, Seminar Room, Nash House, The Barbican, London EC2A 4PU. The series sets out to explore the role of film as an organizing tool for community, social and political action, and will also provide an opportunity to discuss with film groups how they operate. The seminars are open to the public. Fee £1.00. Further details from Linda Lloyd Jones, ICA.

The fourth seminar of the Open University Students' Association entitled "The Disabled Graduate" will be held on February 14, at the Open University, Walton Hall, Milton Keynes, Buckinghamshire. Further inquiries from "Seoulair", OUSA Office, Open University.

The International Book Information Service is sponsoring a one-day conference to discuss direct mail promotion. The conference will be held at the Hotel Russell, Russell Square, London WC1. Further details from Philip Sturrock, International Book Information Services, New Building, North Circular Road, Neasden, London NW10 6JL.

A one day conference on Industrial participation will be held at the Polytechnic of Central London on January 23. The conference will be chaired by David Liston, one of the pro-rectors of the polytechnic and also educational adviser to the British Nuclear Fuels Board. Further details and enrolments from Rossana Pocoterra, The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1.

The second Martin Wight Memorial Lecture will be given by Professor Hedley Bull, professor of international relations, Australian National University, on "Martin Wight and the Theory of International Relations" on January 29 at 5 pm in the Common School of Economics, Houghton Street, London WC2. Admission free.

Social Psychology and Social Policy, a one-day conference organized by the British Psychological Society and the Department of Social Sciences at Loughborough University, Leicester, will be held on February 28. Fee £3.50. Programme details and registration forms from: David Macfarlane, Department of Social Sciences, Loughborough University, Loughborough, Leicestershire LE11 3TU.

The University Teaching Methods Unit is organizing two study groups this term, one on innovation in higher education and the other on small group techniques. The innovators group will meet on Monday evenings for six to eight weeks, starting January 12; the small group group will meet on Tuesday evenings for the same period starting January 13. Fee £5 for each class. Meetings will be held at the UTMU, 55 Gordon Square, London, W.C.1.

Grants

Universities

East Anglia

Biological Sciences—£1,552 from the East Anglian Regional Health Authority for research into muscular dystrophy under the direction of Dr D. J. Bailey; £2,032 from the East Anglian Regional Health Authority for the study of drug and hormone metabolism in the kidney; £2,035 from the SRC for the control of colonial and cellular morphogenesis in myxobacteria under the direction of Dr C. H. Clarke; £11,936 from the SRC for the study of metabolic control in relation to the control of pH, under the direction of Professor D. Davies; £3,144 (supplementary) from the SRC for studies on cytochromes and other redox proteins from pseudo-monas aeruginosa under the direction of Dr C. Greenwood; £15,155 from the SRC for studies on cytochromes under the direction of Dr C. Greenwood.

Chemical Sciences—£2,500 from the Royal Society/Chemical Society for a project on chemical education in Europe; £3,472 from the SRC for nuclear magnetic relaxation studies of elastin under the direction of Dr K. J. Packer; £8,655 from the SRC for research on efficient blue emitting up-converters phosphor under the direction of Dr A. J. Thomson; £7,500 from the SRC for investigation into optical and thermal electron transfer processes under the direction of Dr R. D. Cannon; £60,074 from the SRC for research into high-resolution NMR spectroscopy of solids under the direction of Dr R. K. Harris and Dr K. J. Packer.

Computing studies—£18,970 from the SRC for investigations in computational geometry under the direction of Dr A. R. Forrest.

Environmental Sciences—£1,053 from the SRC for an investigation into the recreational motivation, carrying capacity and management policy in Broadland under the direction of Dr T. O'Riordan; £8,987 from the NERC for an investigation into the flow of glaciers over deformable materials.

Centre for Applied Research in Education—£28,636 from the SRC for study on teaching about race relations; a study in the dissemination of action research under the direction of Dr A. Stenhouse; £3,892 supplementary from the SRC for an investigation of the use of objects in the nursery school.

Climatic Research Unit—£15,982 from the NERC for the development of long series of homogenized past rainfall data separate United Kingdom districts; £6,000 from the Royal Insurance Company for climatic research under the direction of Professor H. H. Lamb.

Noticeboard is compiled by Patricia Santinelli and Myrna Monsurrate

COOMBE LODGE

STUDY CONFERENCES SPRING 1976

POLYTECHNICS AND INSTITUTIONS OF HIGHER EDUCATION

Conferences of particular interest to staff involved in higher education

14th-20th March POLYTECHNIC DEVELOPMENT (76/11) An examination of current difficulties and educational changes in higher education.

26th-31st March and 31st March-1st April TRAINING SERVICES AGENCY-INDUSTRIAL TRAINING AND F.E. (76/13A) (76/13B)

6th-12th June HEALTH SERVICE STUDIES IN POLYTECHNICS AND OTHER COLLEGES (76/22) An examination of current change and development in course provision.

27th June-3rd July POLYTECHNIC POLICY (76/26) A conference particularly designed for Principal Lecturers on their role and activities in course development and management.

Further particulars of these and other conferences may be obtained from The Registrar, Further Education Staff College, Coombe Lodge, Blagdon, Bristol BS18 6RG.

LETTERS TO THE EDITOR

Echoes of the thirteen points

Shirley Williams was, it is now clear, years ahead of her time. Of the 13 points which she, as education secretary, put to the universities in 1969 aimed at improved efficiency and cheapness, seven have already become reality, and it seems certain that the remaining six will be no significant let-up in the present economic situation—before virtually the entire canon is accepted.

Writing in the most recent issue of the *New Universities Quarterly*, Sir Alec Merrison argues that the universities have thrown up a wall of intransigence to the suggestions put forward last year by Lord Crowther-Hunt as impotent as the universities' failure to accept the proposals, such as the more extensive use of university plant and the sharing of facilities across the line dividing public and private sector education, are strong echoes of 1969.

But Sir Alec is not entirely fair. The difference now is that universities themselves are beginning to take a lead in pursuing economic measures which will find little or no acceptance in some areas of the academic community now and which would have been unacceptable in all seven years ago.

Thus at the North of England Education Conference Mr. C. Carter suggested that loans rather than grants might be the best answer to the problem of mass demand for higher education. Mr.

Carter argued that higher education is so intrinsically expensive that even on the British scale—which is significantly less extensive than America or Europe—the service provided is both underfunded and diverts resources from the schools. Mrs Williams of course proposed the grants for undergraduates and undergraduates should be either reduced or removed together with the introduction of some form of loan system. There are powerful arguments both for and against loan finance for students. Mr Carter was careful to make it clear that he was less concerned with the propriety of introducing such a system as with the need to stimulate debate about the future of the education system.

In his analysis, Mr Carter suggests that the methods of systems science may have a contribution to make to the development of a policy for efficient higher education, which seems only a fashionable way of saying what educationists have long known—that the relevant strategy depends first on a sensible statement of aims and objectives.

This chief significance of Mr Carter's remarks is that they have been made by a vice-chancellor and not a vice-chancellor of a university. Mr Carter seems merely to be playing some of the 13 points, even if at half speed with the volume turned down.

No easy path for NATFHE

Leaders of Britain's second largest education union, the newly established National Association of Teachers in Further and Higher Education, cannot resist the prospects for 1976.

There is no doubt that the 62,000-strong union, formed by a merger of the Association of Teachers in Technical Institutions and the Association of Teachers in Colleges and Departments of Education, faces an exceedingly difficult task if it is to offer its members a secure future.

It has inherited the problem of a contracting teacher education sector together with growing evidence from recruitment figures that the demand for training in many science and technology courses in polytechnics and colleges of technology.

The Government cannot be expected to bail out overstuffed institutions and it may be a matter of time before open-ended commitments to financing higher

education through the pooling committee is subject to restraint. The union's reaction is naturally to proclaim that it will fight every clause and all redundancies. Yet the present circumstances, in which 7,000 teacher education lecturers jobs alone are threatened by college reorganisation, must mean that some redundancies will be inevitable.

So it is a pity that the union is not prepared to accept some contraction and loss of jobs in polytechnics and colleges and in return to put forward imaginative new policies for retaining the unemployed or extending adult education provision.

A campaign for alternative uses for colleges like Alnwick, Wexham, and Hereford, should be a major priority. NATFHE, emerging as a strong union, could persuade its members to persuade civil servants and ministers to do it.

A wrong to be righted

It is now 20 years since the issue of a Public Lending Right, by which authors would receive payment for either the purchase or use of their books by libraries, was first raised. In that time it has been before the House of Commons at least 34 times, received the backing of several ministers for the arts and been mentioned twice in the Queen's Speech at Royal Assent. Although more than half a dozen countries have implemented some form of PLR, Britain still does not have one.

Reasons for delay are easy to find: dissent among authors as to the best kind of scheme and their disparate nature as a group; opposition from librarians; constant changes of ministers; lack of Government support for what is not a vote-catching issue; and, finally, that what was an "unknown" issue.

Now, however, £16,000 worth of introductions later, Hugh Jenkins has come to the conclusion that the PLR known as a loan scheme, the scheme favoured and pressed for by Maureen Duffy and the Writers' Action Group, it would mean that the book was borrowed from the library.

The disadvantage is that payments are made on a loan basis, which means that the book is only available for a limited period. The scheme is also more complex than the purchase scheme, which means that the book is only available for a limited period.

Administrative costs of either scheme are only an estimated £100 a year. Payment to the authors would be from a central fund; the Government has vaguely indicated a figure of between £1m and £5m, which would give each of the 113,000 authors on average between £8 at the least and £44 at most per book a year.

Other objections, such as that librarians should be free to borrow, are now obsolete, since PLR would be centrally funded. Librarians would not pay except indirectly through taxes, and borrowing would not be deterred. Librarians are still eventually become linked to the sort of books borrowed and hence to particular librarians. But as Maureen Duffy has pointed out, the system has nothing to do with merit or the different kinds of books; it is payment for service.

The only wish of WAG is that there should be eventually a fixed payment per loan rather than a central pool, which ironically means that the more books are borrowed, the more money is paid.

The most common objection however is that PLR will be a lot of trouble for little reward. First, the trouble has been in the research, which will be wasted unless PLR is brought in now. Secondly, the amounts paid are negligible. It is the principle that is at stake, and it is not timely the sympathy of the Government towards the arts.

Art and the polytechnics

from Professor Douglas Garbutt
Sir—Christopher Cornford allows emotions to overrun his logic (*THES*, December 12).

It is simplistic and juvenile to attribute the credit for all good British design to the designers while saying that "in so far as our products are shoddy, hideous and malfunctioning we must blame the manufacturers, accountants and buyers". Does he seriously believe that there are no bad designers?

An old definition of an engineer was "a man who can make for £1 what any fool can make for £2". Surely good design must take account of the total picture. What does it cost? What can it sell for? Who, if anyone, would want to buy it—or make it?

Good buyers (or marketing men) or production engineers, or accountants can help answer these questions. Good designers need not fear them. On the contrary, they should seek them out, because they can make and design effective in everyday life.

To my mind, there are bad accountants, as well as good. Unfortunately, some of the bad ones still qualify and then practise. They are narrow minded, intolerant and stress the quantitative over the qualitative.

But there are some good ones. They recognize the complexity of life and the secondary character of money and financial messages. In private life they paint, make pots, play jazz and reproduce. They suffer, often from the kind of narrow-mindedness which Professor Crawford displays.

Enantiomorphism

from Professor R. D. Gillard
Sir—It was, at one time, traditional for scientists to ask their colleagues to yet coinings used in describing new effects or properties (facultative, chelate, isomer, for example).

I am therefore delighted to read the current correspondence in *The THES* about the word "enantiomorphism", because here the traditional process occurred so long ago that it has been forgotten. It is good to see scholarly criticism of the use of a public lecture, of this "obscure" word which literally every person who has studied sixth-form chemistry since 1900 could define with ease.

Enantiomorphism, in molecules, is a phenomenon elucidated by Lewis Carroll's Alice when she asks the White Rabbit "How would you like to live in looking-glass house, Kitty?"

These are questions which have fascinated scientists for 100 years. Thomas Huxley, Darwin, and chemistry departments still do. Yours truly, R. D. GILLARD, Professor of Inorganic chemistry, University College, Cardiff.

University salaries

from Mrs Freda Conway
Sir—The present discussion of university salaries is largely concerned with comparing these salaries with those paid to other professional groups, particularly polytechnic teachers and administrative civil servants. But like many such discussions, it fails to recognize the complexity of the problems involved.

The Houghton report is quoted as saying that "teachers doing work which is similar to that being done in universities should as a matter of principle be paid broadly comparable rates to their university counterparts and have broadly similar career prospects". But these are two principles, not one, and the only under very special circumstances that they will be found to be compatible.

Salary scales are an important aspect of career prospects, but they are certainly not the only determining factor. Two other important factors are the establishment of the permitted or actual proportion of posts in the various grades; and recent and expected future rates of expansion or contraction of the service.

Establishment ratios are largely a product of the type of organization in which the occupational groups are employed; consequently, even if non-salary scales can be established,

The ideal of the polytechnic is what the name implies—a meeting ground for many arts, crafts and vocations. If the art schools approach the polytechnic with open minds they will find they have much to contribute and much to gain.

As Professor Crawford argues, design is a pervasive concept—it appears in engineering, marketing, organization, personnel administration, finance and accounting, as well as in painting, pottery and etching. Efficiency is another concept which appeals to all who are expert in their own field—whether graphics or topology or systems analysis, or the capital structure of a firm.

Would Professor Crawford be shocked by the idea of a graphic design school? Or the author of a best-selling manual: "My philosophy is the more sex the better." But where philosophy is to be the name for an intellectual discipline it has to be applied more restrictively. It will then still include dominant features of such a term as, even *The Dialectics of Nature*, and *Empirio-Criticism* and the *Philosophical Notebooks*, as well as Plato's *Theaetetus* and *Parmenides*, Kant's *Three Critiques*, and Hegel's *Phenomenology of Spirit*. But it would not extend this list by adding—*The Condition of the Working Class in the Nineteenth Century* or *Louis Buonaparte*.

All this said, however, it is perhaps the point to add two things which my students must be sick of hearing. First, it is fallacious to infer from the premise "I am only paid to know this" the conclusion "I am paid to know this, and nothing else".

Second, many matters which are philosophical in the narrower, technical disciplinary sense do have bearings on issues of world outlook. A paradigm is provided by *Plato in The Republic*. For his answer to the question how production is possible, how the one-man can be applied in many instances, because the rationale, the ideology, for the absolute power of *The Guardian* elite. In *The Republic* the philosopher king is by definition one who knows the Forms!

Yours sincerely, ANTHONY FLEW, Department of philosophy, University of Reading.

London University reform
from Professor John Griffith
Sir—Lord Annan is quoted as saying that those who oppose the present proposals for the reform of the University of London, and specifically myself, are condemning the university to Byzantine immobility and think that what was right for 1925 is right for eternity (*THES*, December 19).

Lord Annan knows perfectly well that the university has very considerable powers, which he is, in my view, using to change its way of functioning. Very considerable reforms were introduced in the mid-1960s, following the report of the Saunders Committee, which strengthened the position of the college and gave them greater autonomy.

These were all to the good. Opposition to particular changes cannot, without twisting words, be interpreted as opposition to change in general.

The basic of the reforms, which I and others oppose, reverts to the proposals of the Royal Commission of 1913 which were condemned in 1924 by the Hulton Young Committee and discarded. It is Lord Annan who wishes to put the clock back 60 years, not I.

What we have never been told is what specific actions the new central body intends to take. You report Lord Annan as saying that the body would "scrutinize" and "regulate" colleges to "bring them up to standard". Presumably this means restricting certain academic activities and to insist on a certain standard. And that means to transfer the power of making such decisions from the colleges to the central body. That is the crux of the matter, and that is what I oppose.

Yours faithfully, FRED CONWAY, 37 May Road, Swinton, Manchester M27 1PS.

Philosophy

from Professor Anthony Flew
Sir—My friendly former Leeds students, Dollimore and Butler (*THES*, December 19) take exception to my statement that "the amount of Marx and Engels" that can be considered "real philosophy" is "very small" (*THES*, December 5); and they speak of "restoring to philosophy the breadth of concern it should have".

Certainly there is a common, omnium gathrum, sense of the word "philosophy" in which many of us are to be found. It is a word which counts as philosophical. If that is how we are to use the word, then certainly all the works of the Marxist-Leninist canon are philosophical; as was the remark of one of my American psychologist friends, "Marx and Engels, in fact, became the best-selling manual: 'My philosophy is the more sex the better'."

But where philosophy is to be the name for an intellectual discipline it has to be applied more restrictively. It will then still include dominant features of such a term as, even *The Dialectics of Nature*, and *Empirio-Criticism* and the *Philosophical Notebooks*, as well as Plato's *Theaetetus* and *Parmenides*, Kant's *Three Critiques*, and Hegel's *Phenomenology of Spirit*. But it would not extend this list by adding—*The Condition of the Working Class in the Nineteenth Century* or *Louis Buonaparte*.

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We are daily deluged with reports and images of what is called "violence", some of which at least correspond to what everyone understands by the term. We are told that we live in an age of unprecedented violence, or that violence is increasing (and ought to be diminished), and the reports and images seem to confirm these generalizations.

The world is now one of the most common and central in ordinary political discussion. Leaders, writers, politicians and pundits of all kinds ceaselessly urge upon their readers and hearers the virtues of "non-violence", as if they had all been belatedly converted into disciples of the (murdered) Mahatma Gandhi and the (murdered) Martin Luther King.

The word "violence" remains an extremely potent one, even if its over-use (and abuse) may bring diminishing returns. Despite allegations that there is a tendency to glorify violence on the left—the names of Fanon, Sartre, and even Marcuse are habitually cited in this context—it remains a dangerously difficult and, in fact, unusual, for anyone to advocate or defend in public the use of violence for political ends.

The accusation of either condoning or supporting violence is one that most people prefer to shun, understandably enough. It matters a great deal, therefore, what the dominant definition of such a term is, and whether it can, and should, be effectively challenged.

The minimal ordinary conception of violence is well known, although, as we shall see, not as straightforward as it sounds: a violent action is one which involves doing harm, injury or damage to a human being, or to a non-human being, or perhaps, but more dubiously, to things, notably (in common speech) to things which are owned, in other words property.

The harm or injury conceived of is characteristically physical, or at least, quasi-physical. I have in mind such forms of torture, or "hard labour", which leave no bodily mark, causing suffering and affecting health.

Here we are already running into difficulties. The archetypal act of violence—the image that we are likely to have of it—is something like punching someone in the nose, or stabbing them, or beating them. It is, in other words, a direct and personal act, and it is typically characterized as impetuous and angry rather than as calculated and deliberate.

But most acts that involve physical harm, injury and killing in the twentieth century are quite impersonal. It is not, of course, that they do not involve human agency, but that the most responsible agents are normally remote from the harm and killing caused by their decisions and orders.

It is this aspect of large-scale violence, the remoteness of those most responsible for it from the actual brutality and killing and suffering, which raises the most awkward questions when it comes to defining violence. If Eichmann were to say the least, involved in violence by virtue of his role in the "final solution", why should we not say the same of the man who pays starvation wages or perpetuates disease by obstructing a water supply?

He remoteness from the actual suffering, or his personal niceness or other qualities, to the point, as we have seen, any more than it constitutes an adequate defence against calling somebody a "mass murderer" to say that he or she is personally humane and has a distaste for violence.

It may at once be suggested that the vital difference lies in the areas of intention. Whereas the Nazis had the deliberate policy of killing the Jews of Europe, the man who pays starvation wages or obstructs a water supply does not usually intend harm. He is concerned to make money or protect his interests; the harm is not intended, and perhaps not even foreseen.

This seems plausible. Someone who greets you with a slap on the back that knocks you over would not normally be said to have committed an act of violence.

Yet someone whose mode of getting along the pavement regularly had the unintended effect of forcing other people into the gutter, might well be described as rough, if not violent, in character even if he intended no harm.

Leaving aside the difficult and rather odd idea of violence against property, and rejecting as spurious the supposed distinction between violence and force, we can concentrate on the central issue—violence against persons which is the result of human action rather than natural events.

The concept of violence involves that of harm or injury, as the dictionary indicates, and this allows us to distinguish between torture and dentistry, or more seriously, surgery—a distinction which, bearing in mind the character of Nazi "medicine" is more necessary and less obvious than it might at first sight appear.

I am inclined to suggest that the root concept of violence is that of physical or quasi-

An edited version of 'What is Violence?' published in *The Socialist Register 1975*, ed. by A. GRIFFITH, London: School of Economics and Political Science.

Violence will always be violence



Anthony Arblaster argues against attempts by both right and left to re-define the notion of violence, but warns of the dangers of seeing a necessary contrast between reason and force

physical injury, harm or suffering inflicted on someone against his or her will. The ultimate in such harm is killing someone.

Furthermore it is only the incurably complacent who can hold the belief that the non-revolutionary societies of the capitalist world are committed to the principle of treating every individual as, in Kant's words, "an absolute end in himself".

Apart from the obvious incompatibility of such a principle with the existence of conscription and the punishment of some individuals in order to deter others, consider the single example of traffic accidents.

In Britain in 1972 road accidents caused some 7,700 deaths, seven times as many in a single year as the total number of deaths caused by the "troubles" in Northern Ireland between 1969 and 1974. Heads are shaken sadly over such figures, but very little is actually done to reduce the level of accidents.

In fact, the level has fallen more recently, due to the imposition of lower speed limits, yet these restrictions were inspired by a concern to save not lives but money, to secure a more orderly flow of traffic, and to what people claim, or imply, we do not live in a society governed by the Kantian ethic.

The awkward case of the caruge on the roads not only indicates one of the limits of liberal-democratic society's alleged respect for human life, it also suggests that there is not much consistency in popular thinking about violence.

It suggests that what is classified as "violence" at any given time or place will reflect the particular concerns and priorities of a particular society or class or social group, to which some kinds of violence, and some kinds of actions which will and do cause harm, injury and death, are far more objectionable than others which in their results are equally deadly.

In other words no society or class is likely to be equally opposed to all forms of violence, or concerned primarily to eliminate violence as such. There is a consequent tendency to define violence not in any strict way, but according to the established selective interests and priorities of a society or class.

One way in which this process is currently taking place is the conservative tendency, far more common in the capitalist world, and always popular with those in authority, to every level, to re-define violence so that it both excludes legalized violence yet includes many forms of non-legal or non-authorized action which are quite patently non-violent.

In Britain this tendency has been particularly noticeable in relation to the politics of student protest and the politics of Northern Ireland. Recently, for example, Mr William Van Straubenzee, a former Minister of State with special responsibility for higher education, delivered himself of the

There is a good deal to be said in favour of the radical attempt to extend the concept of violence; it acknowledges the impersonal character of so much violence; it recognizes the difficulties in distinguishing between violence which causes suffering and death and other forms of coercion which have the same results; it represents an attempt to see things from the point of view of the oppressed; and it represents an effort to extend human awareness of human responsibilities.

Having said all that, I think nevertheless that the case for a degree of semantic conservatism is strong in relation to this radical extension of the concept, as it was in relation to the conservative attempt to stretch the term to include any form of illegal direct action, whether violent or non-violent.

I think it is right that we should distinguish violence from other forms of oppression and coercion, because it is different from them; it is the physical character of violence that differentiates it from these other means and methods of coercion.

But it does not follow from this that the moral responsibility for violence lies with those who actually carry it out rather than with those who give the orders, or decide on the policies, that require violence.

The radical is obliged to challenge not only the conventional moral priority given to violence. He will challenge also the conventional contrast that is made between violence on the one hand and the rule of "reason" on the other.

This antithesis, like the denunciations of violence, is part of the stock-in-trade of contemporary reactionary and bourgeois polemics. One case may serve as typical of many: in an article called *Open Letters to a New Student*, Lord James, first vice-chancellor of York University, suggested that a student who wanted to change things will not use force, because to use force is to "reject reason". He will use "rational arguments and never anything else".

How plausible and attractive this sounds—the universities as a world governed by the dictates of pure reason and rational argument. How appealing, and how utterly false. This contrast between reason and force (or violence) is false for several reasons.

First, it implies that there is no violence or threat of violence on the side of reason, or order, or peace. But as we have already seen, the existence of legal violence is not effectively denied by re-labelling it force. Nor does the fact that this violence may only infrequently be actually used mean that the threat of violence is insignificant or ineffective.

Second, to pose an absolute antithesis between reason and violence disguises the fact that, as again has already been noted, there are many forms of oppression, coercion and exploitation which do not normally assume the form of violence, and which do not rely primarily on violence for their effectiveness.

I have suggested that we should adhere to a narrow definition of violence, but if the moral and human consequences of these other modes of oppression, in terms of suffering, deprivation, harm and death, are as dreadful and as widespread as the consequences of physical violence, then there is no reason, a priori, why they should be seen as morally more acceptable than violence.

And there is certainly no reason why we should take the mere absence of physical violence and the existence of order and the rule of law, as synonymous with the rule of reason.

The choice, in most political situations, is not between reason on the one hand and violence on the other. It is a much more difficult choice, an ambiguous choice between action which may involve or lead to the use of violence on the one hand, and support for forms of social stability and political order which incorporate less spectacular but equally harmful forms of oppression and injustice on the other.

Finally, it is not only the case that peace and order rest to some degree on violence and the threat of violence; and that they are compatible with, and may even—as in Northern Ireland—embody injustice and oppression.

It is also the case that, historically, violence has played an immense part in the establishment of the very peace, order and civilization whose spokesmen now preach to the rest of the world the virtues of non-violence and patient gradualism.

The radical attempt to extend the concept of violence can be seen as an oblique tribute to the current potency of the word and the idea. I have suggested that we should, in the end, reject that proposed extension.

The chief reason for that is the greater need to challenge the essentially conservative mode of thought in which violence is seen as always and invariably more terrible than any other form of oppression or coercion.

If, in terms of human suffering and death, the effects of these other forms of oppression are quite as terrible and quite as widespread, why should we pretend that they are in any way morally or politically more acceptable?

The author is lecturer in politics at Sheffield University.

Politics less personalities

Roderick F

BOOKS

Mint and mathematical matters

The Correspondence of Isaac Newton, volume 5, 1709-1713, edited by A. R. Hall and L. Tilling. Cambridge University Press (for the Royal Society), £20.00. ISBN 0 521 08721 X.

Isaac Newton's Theory of the Moon's Motion (1702), by I. B. Cohen. Dawson, £12.00. ISBN 0 7129 0542 8.

This decade has seen a complete transformation in our opportunities to know Newton as a man and a scientist. The Hall-Tilling compilation is a worthy addition to the quantity of information already available (with more to come) from Dr Whiteside's edition of the mathematical notes. It is 10 years since J. E. Scott, the late editor of the letters, began the preparations for volume five, a volume of great interest because it includes the letters from Newton's first introduction to Cotes, the younger man by 40 years, who was to prepare for him—in an uneasy yoke—the second edition of the *Principia*, up to spring 1713 when the second edition was complete. Virtually no Latin is needed for the present volume, but it is essential to have some edition of the *Principia* at one's elbow. The appearance now comes in well with the Keynes-Cohen *Principia* and particularly with their introductory volume, but Hall and Tilling are able to include large sections of copy sent by Newton to Cotes which did not find its way into the second edition. Any such evidence was ruled out by Cohen's strict method of concentrating on the history of the printed text alone—a method which could be justified by the need for a manageable problem, but the defects of which are shown up by the considerable light that some of the letters throw.

The last Whiteside volume, noticed in these pages some months ago, took Newton's story up to the departure from Cambridge. A taste of parchmentary life had opened new vistas to the scholarly reader, and in the present volume we find him Minister of the Mint and very much of the London intellectual. Very many of the letters here are on Mint matters (and a fair proportion, sets the scene for them); and it is clear just how little of a sinner the job was. It occupied a great deal of Newton's time and nervous energy; indeed if one were to argue at all with the editors' sensitive and valuable judg-

ments it would be to question their suggestion that Newton was unjustly pleading Mint business in not replying to Cotes in the autumn of 1711, for surely the more day-to-day details, which other letters make it clear Newton was taking, could easily make it impossible to devote the sort of time to mathematics needed over the crucial 1711 problem.

Three mathematical problems dominate the letters: the motion of the moon, the efflux of fluid from a hole at the foot of a vessel, and the problem (*Principia* Book 2 Proposition 10) of determining the variation of density of a medium which resists a projectile as the square of the speed in order to produce a given trajectory. Of these the first was obviously both of the greatest mathematical interest and, for the determination of longitude at sea, of immense practical importance. The second was a good example of a theory being pressed in answer to questions well beyond its proper domain, which were of some practical importance but whose answer was really demanded more because of the availability of unambiguous experimental results. The third was the man who had anticipated Leibniz in the invention of precisely that part of mathematics.

The relation between Newton and Cotes begins in a friendly enough way. In October 1709 Newton says: "I should not have you be at the trouble of examining all the Demonstrations in the *Principia*. It is impossible to print the book without some faults and if you print by the copy sent you, correcting only such faults as occur in reading over the book, I shall be obliged to you to correct them as they are printed off, you will have labour more than it's fit to give you." And again in the following June: "You need not give yourself the trouble of examining all the calculations of the *Principia*. Such errors as do not depend upon wrong reasoning can be of no great consequence and may be corrected by the Reader." In September of that year interest is rekindled in the Torricelli problem in which the first edition Newton had (wrongly) argued that a jet of water under a certain head would rise (neglecting air resistance) to the height of half the head. Torri-

cell's experiment, and others, suggested this height could be certainly exceeded. Newton sent Cotes a corrected copy which now predicted twice as great a rise, but Cotes still found difficulties. He pointed out with considerable insight that certain experiments of Mariotte might be affected by the shape of the vessel and in October he describes his own experiment, measuring efflux in a given time from a small hole in the base of a vessel and finding a velocity even smaller than the incorrect first edition value. Newton would not be drawn hastily; he must first make some more experiments. There was also Mint business, and some Royal Society matters, so it was not till March 1711 (new style) that Newton sent Cotes a paper (now lost) with a letter explaining the "contracted vein" in a descriptive fashion: "the water . . . passes through the hole with a convulsive motion and here grows into a smaller stream after it is past the hole". He claims that from a hole of five-eighths of an inch comes a stream only twenty-one fortieths of an inch, and this, of course, in true Newtonian fashion, is exactly the correction needed to the error was no great one but the proposition was one which was simply a translation of a calculus treatment into geometrical terms. The second edition appeared with no thanks to Cotes, either from pride or, more likely, because Newton could not thank Cotes without thanking Bernoulli, who had found what Cotes missed.

The motion of the moon had formerly been a great mess, and the newly landed here on it are further illuminated by Cohen's editing of the 1702 tract. For this tract gives some idea of Newton's thinking just halfway between the first two editions of the *Principia*. It is a curious mystery, which ran to four editions in Latin and 13 in English in three distinct versions. Here, after a careful bibliographical introduction of nearly 90 pages, is the 29-page pamphlet together with facsimiles of the Latin version which appeared in David Gregory's *Astronomy*, the English translation of the Gregory version and that of the first presentation in William Whiston's lectures. This forms a useful addition to easily available material for Newtonian studies.

The principal sources for Hall and Tilling's splendid volume are the University Library at Cambridge, that of Trinity College and (through Keynes purchasing) of King's. The Mint documents are in the Public Record Office. The editors and the publishers have combined to do justice to a great project.

C. W. Kilmister

Stereochemical terms

Guidebook to Stereochemistry by F. D. Gunstone. Longman, £2.50. ISBN 0 582 44170 6.

A monograph on stereochemistry which wholly adopts the Cahn-Ingold-Prelog system and which can be recommended without hesitation to an undergraduate student has been needed for some time. Last year Professor Gunstone published a volume of programmes in basic stereochemistry; now we have the text which the programmes can supplement for those students needing further help. Stereochemistry has always been a difficult topic to teach because students vary in their ability to envisage a three-dimensional structure when confronted with a two-dimensional diagram. Gunstone is well aware of the importance of handling material in order to attain understanding, and questions and exercises are interspersed throughout the text.

The definition, and particularly the definition of stereochemical terms, requires a very exact and considered use of language. This text with its precision and accuracy, does not give more emphasis to the many years but it does make for easy reading; it is a rather interesting task. Many concepts are introduced in the first few pages

and throughout the book there are passages which demand the full attention of the reader, and which will probably have to be read and re-read for their full significance to become clear.

Still, the monograph has been most thoughtfully put together. The definition of enantiomerism and diastereomerism on a wider scale than has been customary is followed by the introduction of the sequence rules, a consideration of cis-trans isomerism and enantiomerism, leading finally to a chapter on conformation and one on dynamic stereochemistry. The book has been well produced with an attractive typeface and clear diagrams. Chemists educated on traditional lines will at times find the new definitions a little confusing. To state that enantiomerism occurs only when a molecule contains at least a centre of asymmetry or a plane of chirality is not very helpful. The concept of a plane of symmetry is not dealt with in any detail, and that of a centre of asymmetry is not at all clear. So there can be enantiomerism of the criteria: for these still seem to be the simplest concepts for a student to grasp. It is also a pity that only three methods are given for the resolution of racemates, and that the D and L systems of nomenclature is not given more emphasis. Being linked with absolute configuration and wide use in carbohydrate chemistry.

John Biggs

Part-work

New Movements in the Study of Teaching of Chemistry, edited by D. J. Daniels. Maurice Temple Smith, £4.75. ISBN 0 85117 0773.

This book touches on a number of the difficulties that presently plague the teaching of chemistry at the secondary and tertiary levels: impact of new curricula on teachers and pupils; falling number of entrants to university and technical chemistry departments in this year, at any rate; and, sadly, falling quality in those some that do still come forward.

The avowed aim of the book is to quote from the blurb—to be immediate practical use to the service or student teacher. The general validity of this claim, in the words "immediate practical use" rather than just "general interest", I am rather inclined to question. There are certainly questions and ideas in a number of the contributions that the less committed, or the less experienced teacher could indeed use with profit. Examples come to mind: Michael Vokins on "Chemistry in Biology", Jeff Shapland on "Visualized Learning", Alex J. Stone on "Objectives". John A. Thews on "Assessment of Practical Work" and others. There is a little bit of peddling of that sort of theory with its dreadful tendency to argue that one is left with the impression of a mass of largely disconnected articles no more: the whole is in no greater than the sum of the parts.

One major issue that is touched on is the fact that the great majority of the new ideas and developments—defined in objectives, individualized learning, mixed ability teaching, increased use of educational technology so on—are likely to make increased demands on the individual teacher in terms both of degree of commitment and sheer physical labour. It might be argued that this would be no bad thing, but, certainly optimistic to expect a time when previously scarce standards of ancillary technical assistance, etc., are very much in demand. Perhaps the greatest danger of these new approaches is that individual teacher will have to do much more of an organizer in his predecessor, and long experience suggests that really good organizers have always been rare in the school.

In case this should seem too critical, I would hasten to add that there is a great deal in the book that is of general interest. I suspect, however, that the teacher at whom it is primarily aimed—who is not very well informed about modern ideas and developments—would have profited longer from a book of the kind from fewer hands, and all of the kind from the down-to-earth teacher that characterizes the best of the present collection.

Peter Sykes

Reviewers

Catherine Belsey lectures in English at University College, Cardiff. John Biggs lectures in organic chemistry at the University of Hull. J. Feuchtwanger has recently published *Gladstones and his role in history* at the University of Southampton; other publications include *Prussia: Myth and Reality* and *Disraeli, Democracy and Tory Party*.

Roderick Floud has written an introduction to *Quantitative Methods for Historians* and is professor of modern history at Brunel College London.

Barbara Hardy is professor of English literature at Birkbeck College, London; her most recent book is *Tellers and Listeners*.

C. W. Kilmister is professor of mathematics at Kings College London.

Gordon Left is professor of history at the University of York.

Author of *Medieval Thought*, Peter Sykes is official fellow and director of studies in education at Christ's College, Cambridge.

Classified Advertisements

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Universities



Athabasca University

Edmonton, Alberta

Invites nominations and applications for the position of

President

Athabasca University is an open university established to develop, produce, and deliver undergraduate arts and sciences programs for home-based study by adult students. Its programs include interdisciplinary and career studies of an innovative nature.

Athabasca University is a new member of the Alberta public, post-secondary educational system, and is sponsored and supported by the Department of Advanced Education and Manpower.

The President of Athabasca University must be able to provide direct academic and administrative leadership as well as to assume the more traditional presidential responsibilities.

The Governing Authority invites applications and nominations for the position of President. Letters of application including detailed resumes and letters of recommendation including brief biographical notes on recommended candidates will be received until March 1, 1976.

L.I. Dawson,
Executive Secretary to the Governing Authority,
Athabasca University,
14515-122 Avenue,
Edmonton, Alberta, Canada. T5L 2W4

THE OPEN UNIVERSITY

Summer School
Tutorial Staff

Appointments, some for periods of two consecutive weeks, others for one or two separate weeks, are available between July 10th and September 4th at the Open University's summer schools. These schools will be held at twelve universities throughout Great Britain, and attended by students at foundation, second, third and fourth levels.

Tutor Posts in the Faculties of Educational Studies and Science. There will be TUTOR posts for academics qualified within the following subject areas:

Urban Education—at third level.
Biology, Chemistry, Earth Sciences and Physics—at foundation level.
Chemistry (organic, inorganic and physical), Earth Sciences, Physics (properties of matter and quantum mechanics), Genetics—at second and third levels.

Tutor Posts in the Faculty of Arts. Although preference will be given to current course tutors, a certain number of TUTOR posts will be available for other applicants as follows:

Art History, Music—at foundation level.
Architecture and Design, History, Literature (the Novel), Music—at third level.
Philosophy—at third and fourth levels.

Tutor Posts in the Faculty of Mathematics.

TUTORS are required for the following: Mathematics (M100)—at foundation level.
Pure Mathematics (M201), Topics in Pure Mathematics (M202) and Elementary Mathematics for Science and Technology (MST281)—at second level.

Tutor Posts in the Faculty of Social Sciences.

D101—Making Sense of Society. Applications are invited from persons interested in one of the following interdisciplinary areas which comprise the summer school programme: the study of simulation exercises. Applicants should have academic qualifications in one or more of the following disciplines: economics, geography, government, psychology, sociology. The political simulation could provide a limited number of tutorships for persons whose specialisation is in historical-political geography or political history relating to late 18th-early 20th century Europe. There will also be a limited number of appointments as generalist tutor for persons with a good knowledge of the D101 course material and a familiarity with the problems of foundation course students in the Open University. From all applicants, a wide

interest in the social sciences generally is called for.

DS281—An Introduction to Psychology.

Applications are invited from holders of academic qualifications consisting of at least a two hours degree in psychology, who are prepared to teach in all three main areas of the summer school programme—mental measurement, behaviourism and learning, information processing.

D281—New Trends in Geography. Applications are invited from persons with an interest and teaching experience in modern geography, some knowledge of quantitative techniques and an understanding of hypothesis formulation and testing, particularly in the areas of urban retailing and rural social geography.

Tutor Posts in the Faculty of Technology. There will be TUTOR posts for academics qualified within the following subject areas:

Systems (design, planning, implementation, management, analysis, modelling of social or technical systems).
Art and Environment—for those with practical experience in project work in the Arts, especially project work at both individual and community level.

There will also be a limited number of posts in the areas of Electronics and Electromagnetism, Instrumentation, Materials Science Technology—at second level; and at foundation level for tutors capable of teaching across a broad range of technologies.

Demonstrator Posts.

Applications for the post of DEMONSTRATOR are invited from graduates in the Sciences to work in the areas of Biology, Physics (at foundation level only) and Earth Sciences; from graduates in the Sciences and Engineering to work in the areas of Materials Science, Systems, Structures, Logic, Energy Conversion, Noise Measurement, Chemical Process Evaluation, Metallurgy, Design, Environmental Science and Computing; also from graduates in Psychology.

Application Procedures. For further particulars and an application form for summer school positions, send a postcard with your name and address to the Tutor Office, P.O. Box 82, Milton Keynes MK7 6AU. All completed applications forms must reach the Open University by Friday 6th February 1976.

AUSTRALIA
UNIVERSITY OF MELBOURNE
CHAIR OF RUSSIAN

The University of Melbourne has created a Chair of Russian Studies. Applications are invited from persons holding a first degree in Russian Studies, preferably from a university in Russia, Japan and the USSR. Salary: \$24,394 per annum. Further information, including details on teaching and research opportunities, is available from the Department of Russian Studies, University of Melbourne, Parkville, Victoria 3010, Australia. Applications should be sent to the Chair of Russian Studies, University of Melbourne, Parkville, Victoria 3010, Australia. Closing date: 15 March 1976.

WALES
UNIVERSITY COLLEGE
CARDIFF

Applications are invited for the following vacancy: LECTURER IN MEDIEVAL ARCHAEOLOGY. In the Department of Archaeology. Salary: £21,174 to £24,394 per annum. Further information, including details on teaching and research opportunities, is available from the Department of Archaeology, University of Wales, Cardiff, CF1 1TA. Applications should be sent to the Chair of Medieval Archaeology, University of Wales, Cardiff, CF1 1TA. Closing date: 15 March 1976.

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Polytechnics continued

oxford polytechnic

HEAD OF DEPARTMENT
OF ESTATE MANAGEMENT

(Re-advertisement)

Applications for the above post (Grade VI, £8,037-£8,913), including the names of 3 referees should be submitted by 2 February 1976 to The Director, Oxford Polytechnic (D), Oxford OX3 0BP from whom further particulars and application forms may be obtained.

Colleges of Education

Derby College of
Art and TechnologyHead of Division of
Graphic Design and
Printing

Salary scale: Principal Lecturer: £5,940-£6,442 per annum

Application forms and further details may be obtained from the Principal, Derby College of Art and Technology, Kedleston Road, Derby DE3 1GB, to whom they should be returned by Monday, 16th February 1976.

St. Mary's College of Education
Cheltenham

Post of

Vice-Principal

Applications are invited from suitably qualified and experienced candidates for the post of Vice-Principal, in this Church of England College of Education for women students. The post becomes vacant on 1st September, 1976.

Further particulars and application forms may be obtained from the Principal, St. Mary's College, The Park, Cheltenham, Glos., to whom they should be returned by 26th January, 1976. The College is graded Group 5.

Derby College of
Art and TechnologyLecturer Grade II in
Complementary Studies with
special interest in Film
Studies

Salary scale: Lecturer Grade II: £3,270-£4,492 p.a.

Application forms and further details may be obtained from the Principal, Derby College of Art and Technology, Kedleston Road, Derby, DE3 1GB, to whom they should be returned by Friday, 20th January 1976.

BIRMINGHAM

WESTBURY COLLEGE OF

TECHNOLOGY

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Colleges of Further Education

CAMBRIDGE

CAMBRIDGE COLLEGE OF
ARTS AND TECHNOLOGY

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BOLTON INSTITUTE OF
TECHNOLOGY

MANAGEMENT AND BUSINESS STUDIES DEPARTMENT

LECTURER Grade II in LAW

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